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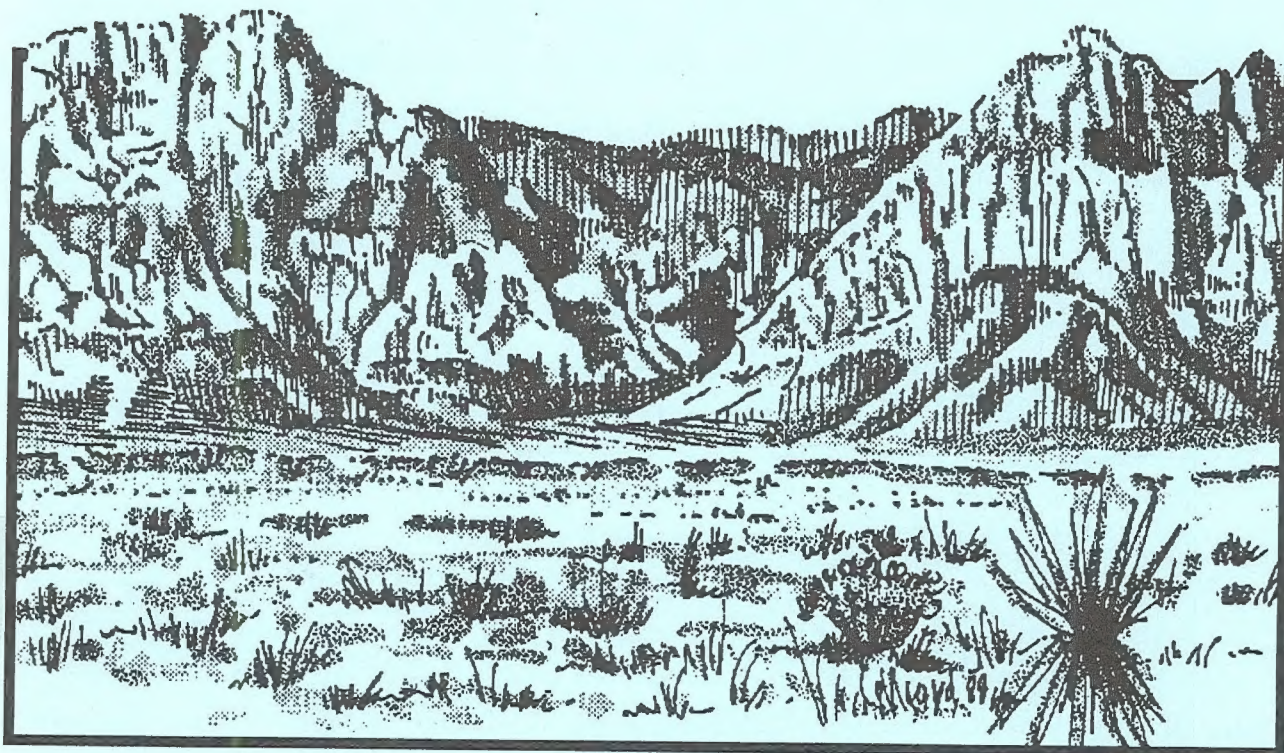
Stateline Resource Area  
4765 Vegas Drive, P.O. Box 26569  
Las Vegas, Nevada 89126

May 1992



**DRAFT  
STATELINE RESOURCE MANAGEMENT PLAN  
AND ENVIRONMENTAL IMPACT STATEMENT**

**Volume I : Summary, Purpose and Need,  
Alternatives, Affected Environment,  
Impacts, Consultation & Coordination,  
and Plan Implementation, Maintenance,  
and Amendment.**







# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

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IN REPLY REFER TO:

1610  
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NV-050)

May 15, 1992

Dear Reader,

Enclosed for your review and comment is the Draft Stateline Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the management of 3.7 million acres of public lands administered by the Bureau of Land Management (BLM) in Clark and Southern Nye Counties. This document was developed in response to changing resource, social/economic, and regulatory factors since the previous Clark County Management Framework Plan was completed in 1983. It analyzes five different management alternatives including the No Action Alternative and is expected to provide management guidance to the BLM over the next 20 years.

Public meetings and/or hearings will be held on the following dates and at the following locations for the purpose of discussion and receiving oral comments on this draft plan:

- July 8, 1992 - BLM Conference Room, 4765 Vegas Drive, Las Vegas, Nevada
- July 9, 1992 - Convention Center, 200 Water Street, Henderson, Nevada
- July 14, 1992 - Riverside Resort, Laughlin, Nevada
- July 15, 1992 - Community Center, Searchlight, Nevada
- July 16, 1992 - Virgin Valley High School, Mesquite, Nevada
- July 21, 1992 - Community Center, Pahrump, Nevada
- July 22, 1992 - BLM Conference Room, 4765 Vegas Drive, Las Vegas, Nevada

All meetings will begin at 7:30 p.m. A time limit may be placed on oral comments, depending on the number of people who wish to make a statement. Oral comments should be accompanied by a written synopsis of the presentation. All comments, written or oral, received during the 90 day comment period that pertain to the scope of this draft RMP, will be considered and evaluated in preparation of the Proposed RMP and Final EIS.

Written comments should be marked "RMP Comments" and sent to: Bureau of Land Management, Stateline Resource Area Manager, P.O. Box 26569, Las Vegas, Nevada 89126. Written comments must be postmarked no later than September 15, 1992 to be considered in the preparation of the Proposed RMP and Final EIS. For further information contact: Jerry Wickstrom, Team Leader, at the Las Vegas address above or telephone (702) 647-5000.

Sincerely,

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*Billy R. Templeton*  
Billy R. Templeton  
State Director

(BLM-LV-PT-92-050-1610)



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**DRAFT**

**STATELINE RESOURCE MANAGEMENT PLAN  
AND  
ENVIRONMENTAL IMPACT STATEMENT**

Prepared by  
**DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
LAS VEGAS DISTRICT**

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Billy R. Templeton  
State Director, Nevada

This Draft Stateline Resource Management Plan and Environmental Impact Statement is the first step in developing a management plan to guide BLM policy and decisions over the next 20 years for approximately 3.7 million acres of public land located in Clark and Nye County, in southern Nevada. This draft plan has been prepared in response to rapidly changing public use demands and natural resource management concerns. It examines several different alternatives for management and analyzes their environmental implications. Environmental compliance will continue to be an action specific requirement within the overall management guidance established by the plan.

For further information contact: Jerry C. Wickstrom, Team Leader, Bureau of Land Management, Las Vegas District Office, P.O. Box 26596, 4765 Vegas Drive, Las Vegas, Nevada 89126, or telephone (702) 647-5000.

Please submit written comments to: Stateline Resource Area Manager, at the above address. All written comments must be postmarked by September 15, 1992.







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## SUMMARY







# SUMMARY

## INTRODUCTION

The Stateline Resource Area Draft Resource Management Plan/Environmental Impact Statement (Draft RMP/EIS) explores future management for 3.7 million acres of public land in Clark and Nye Counties, located in southern Nevada. This planning area corresponds to the Stateline Resource Area of the Bureau of Land Management's Las Vegas District, Las Vegas, Nevada. The need for this RMP/EIS resulted from the inability of current land use plans, the *Clark County Management Framework Plan (1984)* and the *Esmeralda-Nye Resource Management Plan (1986)*, to meet the rapidly changing public land use demands of southern Nevada.

The Draft RMP/EIS is prepared as a single planning document to provide new management goals, objectives, and direction where needed. It will also bring forward valid existing management strategies from the two current land use documents. Five alternatives were considered in detail: The No-Action Alternative represents a continuation of current management direction within the framework of present laws, regulations, including existing Memoranda of Understanding and Cooperative Agreements. The No-Action Alternative provides a baseline for comparison of the environmental effects of the other alternatives. Alternative A is designed to provide for a full spectrum of public land uses in the traditional sense of multiple-use and sustained-yield; consumptive and non-consumptive uses would be balanced. Alternative B attempts to provide maximum opportunities for land-based growth and development needs of the State of Nevada, while continuing to provide for multiple-use and sustained yield of the public lands. Alternative C provides for the management of the public lands on an ecosystemic basis, with an emphasis on biodiversity, non-consumptive uses, and the protection and recovery of the desert tortoise in accordance with the Clark County Habitat Conservation Plan (in preparation). Alternative D is BLM's Preferred Alternative and would continue to allow for multiple use of the public lands, permit maximum flexibility in the disposal of public lands, and provide for the protection and recovery of the desert tortoise.

The components of the various alternatives are summarized in Tables S-1 and are further described in Chapter 2. The impacts anticipated from the alternatives are summarized in Table S-2 and are more fully detailed in Chapter 4.



Table S-1 Summary of the Alternatives

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Air Resource Management</u>	Compliance with Clean Air Act; project-specific mitigation	Compliance with all Federal, State, and local air quality standards and regulations, including Clean Air Act; project specific mitigation	Same	Same	Same
<u>Soil Resource Management</u>	-----	For a majority of soil related management actions see sections on Riparian, Fish and Wildlife, Livestock Grazing, Recreation, Minerals, Fire and Special Management Areas	Same	Same	Same
	Project-specific mitigation based on SSF classes	Project-specific mitigation based on erosion condition classes and erosion susceptibility ratings	Same	Same	Same
	Develop WMPs for Virgin River, Muddy River, and Meadow Valley Wash	Prepare WMPs where other management plans cannot adequately address situation	Same	Same	Same
	-----	Determine condition of watersheds and recovery potential; undertake actions to maintain or improve watershed conditions	Same	Same	Same
	-----	Complete an Order III Soil Survey	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Soil Resource Management (cont.)</u>	Allow mechanical treatments for vegetation manipulation	----	----	----	----
	Construct water control facilities in the Amargosa River drainage	----	----	----	----
	Maintain natural conditions by excluding uses which would reduce existing ground cover, increase present erosion activity, or impair present water quality and yield	----	----	----	----
<u>Water Resource Management</u>	Maintain existing waters at the source; fence to prevent degradation of the source or associate riparian area; provide water for livestock and wild horses and burros away from the source	----	----	----	----
	----	For a majority of water related management actions, see Soils, Riparian, Fish and Wildlife, Livestock Grazing, Recreation, Minerals and Special Management Areas	Same	Same	Same
	Do not allow competitive events within 1/4 mile of water sources	----	----	----	----
<u>Water Resource</u>	Protect riparian zones	----	----	----	----



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Management (cont.)</u>	and develop site-specific mitigation				
Minimize non-point pollution from BLM-initiated and authorized actions; develop a pollution control and abatement program	Minimize both point and non-point sources of pollution following best management practices	Same	Same	Same	
	Develop and institute "208" water quality monitoring and surveys	----	----	----	----
	-----	Determine needs and acquire water to meet management objectives	Same	Same	Same
	-----	Determine instream flow requirements and apply for necessary water rights on the Virgin River and Meadow Valley Wash	Same	Same	Same
<u>Vegetation Management</u>	Continue existing rangeland monitoring studies and establish new studies as needed	Determine ecologic status of plant communities on public lands and manage to achieve desired communities or PNC within 20 years	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Vegetation Management</u> <u>(cont.)</u>	Determine proper long-term stocking rates of domestic livestock on allotments, desirable numbers of wild horses and burros in HMAs, and populations of mule deer, bighorn sheep in their existing and potential habitats	Maintain or improve vegetation to desired community or PNC in the SRA  Maintain or improve habitat of T&E or candidate plant species in SRA	Same	Same	Same
	Manage perennial vegetation at proper utilization rate to obtain a sustained yield and improve livestock forage condition	----	----	----	----
	Develop a programmatic fire rehabilitation program	Implement BLM Fire Rehabilitation Plan	Same	Same	Same
	Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities	----	----	----	----
	Allow only minimal clearing of vegetation on project sites	Allow construction, mining activity, or OHV activity on T&E or candidate plant species habitat only after appropriate mitigation	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Vegetation Management</u> <u>(cont.)</u>	Rehabilitate all disturbed sites where necessary and practical	Provide for rehabilitation of disturbed areas on the public lands to maintain or restore plant productivity; manage for optimum species diversity unless area originally supported only a vegetation monoculture	Same	Same	Same
<u>Riparian Resource Management</u>	Protect riparian zones by developing mitigation on a site-specific basis	For a majority of riparian related management actions, see Soil, Water, Vegetation, Fish and Wildlife, Livestock Grazing, Lands, Recreation, Minerals, Fire, Acquisitions and Special Management Areas	Same	Same	Same
	-----	Complete at least 15 spring-associated riparian projects annually	Same	Same	Same
	Do not allow competitive events within 1/4 mile of water sources	-----	-----	-----	-----
	Close the Ash Meadows pupfish area to competitive OHV events; casual use is restricted to existing roads, trails, and washes	-----	-----	-----	-----

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Riparian Resource Management (cont.)</u>	Protect the Virgin River riparian zone from degradation	Use protective fences, as needed, to prevent further degradation and aid in the recovery of the Virgin River Riparian Area	Same	Same	Same
	Retain all riparian areas in public ownership unless disposal would be in the public interest	----	----	----	----
	Provide water for wildlife, wild horses and burros, and livestock; fence riparian areas to exclude livestock and wild horses and burros; provide water for livestock and wild horses and burros away from the source	Use protective fencing, as needed, and provide alternative water sources and/or locations to prevent further degradation of and aid in the recovery of spring associated riparian areas	Same	Same	Same
	Develop and implement WMPs for the Virgin River, Muddy River, and Meadow Valley Wash watersheds	----	----	----	----
	Minimize all non-point pollution potential from BLM-initiated and authorized actions	----	----	----	----
	No management classes; develop mitigation on a project-specific basis	Designate and manage 1,125,415 acres as VRM Class II	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Visual Resource Management (cont.)</u>	----	Designate and manage 1,867,657 acres as VRM Class III	Same	Same	Same
		Designate and manage 678,055 acres as VRM Class IV	Same	Same	Same
<u>Fish and Wildlife Habitat Management</u>	Develop desert tortoise HMPs for Horse Springs Wash, Virgin Mtn., Riverside, Piute Valley, Eldorado Valley, Goodsprings, Sheep Mtn., California Wash, Moapa, Red Rock, and Arrow Canyon habitat areas	Develop desert tortoise HMPs for the following ACECs: Piute Valley, Virgin, Coyote Springs/Mormon Mesa, Ivanpah Valley, and Pahrump Valley	Develop desert tortoise HMPs for the following ACECs: Piute Valley, Virgin, Coyote Springs/Mormon Mesa, Ivanpah Valley, Pahrump Valley, California Wash, and Indian Springs	Same as Alt. B	Same as Alt. A
	Develop bighorn sheep HMPs for the Gold Butte; Virgin Mtns.; McCullough Mtns.; Highland Range; Eldorado; Bird Springs; Muddy Mtns.; Dry Lake Mtns.; Red Rock; Arrow Canyon; North Spring Mtns.; Sunrise; Newberry; South Spring Mtns.; New York/Castle Mtns.; Spring Mtns.	Develop bighorn sheep HMPs for the following: Arrow Canyon/Elbow Ranges; South Spring/Bird Springs/Devil's Peak; Gold Butte/Virgin Mtns.; Eldorado/Newberry Mtns. and Spring Range; McCullough Mtns.	Same	Same	Same
	----	Revise Highland Bighorn Sheep HMP	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	Develop a woundfin minnow HMP for the Virgin River	Revise Virgin River HMP	Same	Same	Same
	Develop a dune beetle HMP for the Big Dune habitat area	Designate 1000 acres on Big Dune as an ACEC	Same	Same	Same
	Continue implementation of the Ash Meadows HMP	Designate 37,078 acres as an ACEC; make 9,243 acres of inholdings in Ash Meadows NWR available to USFWS	Same	Same	Same
	----	Prohibit BLM authorized activities which affect groundwater levels/spring flows in Ash Meadows and Moapa Valley	Same	Same	Same
	----	Segregate lands in Moapa Valley against agricultural entry	Same	Same	Same
	Protect riparian zones on an as-needed basis	Obtain water rights to springs (where unappropriated) and manage springs as natural riparian systems	Same	Same	Same
	----	Improve riparian habitat by revegetation and tamarisk control	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	Do not develop new dual-use allotments in current or historic bighorn sheep habitat	Same	Same	Same	Same
	-----	Emphasize protection and improvement of riparian habitat	Same	Same	Same
	-----	Continue to implement BLM "Riparian Management Strategy Plan"	Same	Same	Same
	Do not authorize domestic sheep grazing in the McCullough Allotment; allow only cattle	Do not authorize domestic sheep grazing in allotments with bighorn sheep habitat	Same as Alt. A	Same as Alt. A	Same as Alt. A
	In desert tortoise crucial habitat, limit domestic sheep use to a single pass through any one use area in any given grazing season	Manage domestic sheep grazing within the constraints developed through Section 7 consultation	Same as Alt. A	Eliminate domestic sheep grazing in desert tortoise habitat	Same as Alt. A
	-----	Protect/improve springs, seeps, and riparian areas in bighorn sheep habitat	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	All new livestock and wild horse and burro waters must not create new conflicts with fish or wildlife habitat	Allow new water developments for wildlife, livestock, wild horses and burros in ACECs only if these developments do not create conflicts with desert tortoise	Same as Alt. A	Allow new water developments for wildlife and wild horses and burros only if these do not create conflicts with desert tortoise	Same as Alt. C
	Provide water for wildlife, wild horses and burros, and livestock; fence riparian areas to exclude livestock and wild horses and burros; provide water for livestock and wild horses and burros away from the source	Do not construct new water developments for livestock and wild horses and burros if these developments will result in the expansion of livestock and/or wild horses and burros into bighorn sheep habitat	Same	----	----
	Encourage all public land users to travel only on existing roads or trails in crucial wildlife habitat; avoid new road or trail construction in crucial habitat	Designate all ACECs as limited to designated roads and trails for casual OHV use	Same	Same	Same
	Where possible, avoid new road/trail construction in crucial wildlife habitats	Allow no new road construction or sitings of ancillary facilities in bighorn lambing habitat	Same	Same	Same
	----	Designate ACECs as ROW avoidance areas	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	----	No material sites ROWs will be authorized in ACECs	Same	Same	Same
	Determine proper long-term stocking rates of domestic livestock on allotments (based on forage availability), desirable numbers of wild horses and burros in HMAs (based on FY83 population levels and consultation and coordination) and populations of mule deer and bighorn sheep in their existing and potential habitats (based on NDOW census)	Establish stocking level based on availability of forage on ephemeral allotments	Same as Alt. A	Same as Alt. A	Same as Alt. A
	----	Manage wild horse and burro populations for a natural thriving ecological balance	Same	Same	Same
	----	Use monitoring to determine long-term management levels for wild horses and burros	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	---	Remove wild horses and burros which have expanded beyond existing herd management areas or into the Ash Meadows NWR/ACEC	Same	Same	Same
	Manage perennial vegetation at the proper utilization rate to obtain a sustained yield and improve livestock forage condition	Limit utilization by all herbivores on key perennial forage species to 55% of current year's growth in HMAs	Same	Same	Same
	---	Implement grazing Prescriptions 1 and 2 on allotments in tortoise habitat	Same as Alt. A	Close tortoise ACECs to livestock grazing	Same as Alt. A
	---	Maintain or improve bighorn sheep habitat in HMP areas	Same	Same	Same
	---	Allow permitted activities in bighorn habitat on a case-by-case basis	Same	Same	Same
	Identify in issued mineral leases that impacts to crucial bighorn sheep and desert tortoise habitat will be subject to mitigative measures during the plan of operations stage	Prevent undue and unnecessary degradation of bighorn sheep habitat due to mineral exploration and development	Same	Same	Same
<u>Fish and Wildlife Habitat Management (cont.)</u>	Whenever possible, avoid surface disturbing	Do not allow surface occupancy on fluid	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	activities in bighorn sheep crucial habitat under proposed mining plans of operation	mineral exploration and development between May 1-Sept. 30 within 2 miles of bighorn sheep waters			
	----	Allow bighorn sheep populations to reach levels consistent with habitat carrying capacity; adjust potential population estimates using monitoring data	Same	Same	Same
	----	Designate the River Mtns. as an ACEC	Same	Same; withdraw the ACEC from mineral materials and non-energy leasables	Same; withdraw the ACEC from locatable mineral entry and mineral materials sales
	----	Designate 970,160 acres as tortoise ACECs	Designate 1,346,200 acres as tortoise ACECs	Designate 1,356,680 acres as tortoise ACECs	Same as Alt. A
	----	Minimize impacts to tortoise habitat during fire suppression	Same	Same	Same
	----	Allow reintroduction of wildlife species into tortoise ACECs only if it will create no conflicts with tortoise	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	----	Determine if predator control is necessary in tortoise habitat	Same	Same	Same
	----	Minimize increase or spread of predator populations where they prey on tortoises	Same	Same	Same
	----	Monitor tortoise population study plots every 2-5 years	Same	Same	Same
	----	Implement appropriate actions from the Desert Tortoise Recovery Plan and plans for other special status species	Same	Same	Same
	----	Withdraw 634 acres on and adjacent to the Desert Tortoise Conservation Center; enhance the function of the center as an environmental education and research facility	Same as Alt. A	Withdraw 11,671 acres on or adjacent to the Desert Tortoise Conservation Center; enhance the function of the center as an environmental education and research facility	Same as Alt. A



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>	----	Inventory and monitor peregrine falcon habitat; prevent undue and unnecessary degradation of potential peregrine habitat; prepare an HMP for occupied habitat; close areas within 1/2 mile of active nests between Feb.1-Sept.1; explore reintroduction of peregrine into suitable habitat	Same	Same	Same
	----	Allow construction of upland game guzzlers	Same	Same	Same
	----	Adopt a burn plan for mule deer habitat	Same	Same	Same
	----	Manage mule deer populations consistent with carrying capacity of habitat	Same	Same	Same
	----	Manage mesquite in the following areas: Amargosa Mesquite ACEC; Stump Springs; Meadow Valley Wash.	Same	Same	Same
	----	Develop management plan for Amargosa Mesquite ACEC	Same	Same	Same
<u>Fish and Wildlife Habitat</u>	----	Designate 9,600 acres as	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Management (cont.)</u>		Amargosa Mesquite ACEC			
	---	Inventory/monitor Phainopela populations	Same	Same	Same
	---	Inventory/monitor areas with significant raptor populations	Same	Same	Same
<u>Forestry Resources Management</u>	Develop a greenwood cutting program in the Spring, Virgin, and McCullough Mtns.	Provide 800 acres of public lands in Pahrump and 400 acres in Amargosa Flat for mesquite cutting; the remainder of SRA will not be managed for the harvest of forest products	Same	Same	Same
	---	Limit firewood gathering to one cord per household per calendar year; limit the number of cords sold to 35 within a given calendar year	Same	Same	Same
	Coordinate the removal of native desert vegetation with the Nevada Division of Forestry	Make desert vegetation (100-1000 plants per year) available for salvage harvest by the public from areas subject to surface-disturbing activities	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Forestry Resources Management (cont.)</u>	---	Maintain 138,000 acres of pinyon-juniper and conifer forest at late seral stage or full ecological potential	Same	Same	Same
<u>Livestock Grazing Management</u>	<p>Allow livestock grazing on 2,237,478 acres of public lands; Close the Red Rock Canyon portion of the Spring Mtn. Allotment and the River Mtns. Allotment to livestock grazing; do not authorize livestock grazing on the remainder of the Spring Mtn. Allotment; do not authorize grazing on the Indian Spring, Vegas Valley, or Lake Mead NRA Allotments; continue to make the remainder of the public rangelands in Clark County available for livestock grazing</p> <p>Close the Ash Meadows Allotment to livestock grazing; do not authorize livestock grazing on the Carson Slough or Grapevine-Rock Valley Allotments until completion of Section 7 consultation</p>	<p>Allow livestock grazing on 2,036,933 acres of public lands</p> <p>Manage livestock grazing under constraints of Section 7 consultation</p>	<p>Allow livestock grazing on 2,036,933 acres of public lands</p> <p>Same</p>	<p>Allow livestock grazing on 1,001,767 acres of public lands; limit livestock grazing in desert tortoise habitat</p> <p>Same</p>	<p>Allow livestock grazing on 1,902,881 acres of public lands</p> <p>Same</p>

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Livestock Grazing Management (cont.)</u>	---	Allow no livestock grazing on 19 allotments plus Amargosa Valley/Crater Flat, and riparian zones along the Muddy and Virgin Rivers, and Meadow Valley Wash	Same as Alt. A	Allow no livestock grazing on 19 allotments, Amargosa Valley/Crater Flat, the riparian zones along the Muddy and Virgin Rivers, and Meadow Valley Wash, and within allotments containing desert tortoise habitat	Allow no livestock grazing on 28 allotments (including 9 allotments not grazed within the past 10 years), Amargosa Valley/Crater Flat, along the Muddy and Virgin Rivers, and Meadow Valley Wash
	Do not authorize livestock grazing in the remainder of Planning Area B of southern Nye County except within the Mt Stirling and County Line Allotments	----	----	----	----
	Authorize livestock use up to active preference in the Mt. Stirling Allotment	----	----	----	----
	Develop AMPs for the Wheeler Wash, Gold Butte, Bunkerville, McCullough Mtns., Hidden Valley, Iteba Peaks, and Jean Lake Allotments in Clark County; develop an AMP for the Mt. Stirling Allotment in Planning Area B of southern Nye County	Develop AMPs for "I" and "M" allotments	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Livestock Grazing Management (cont.)</u>	Through consultation and coordination, review and revise, if necessary, the Crescent Peak AMP	----	---	----	----
	Intensively manage the Azure Ridge, Billy Goat Peak, Bunkerville, Christmas Tree Pass, Crescent Peak, Gold Butte, Hidden Valley, Ireteba Peaks, Jean Lake, McCullough Mtns., Mesquite Community, Upper Mormon Mesa, and Wheeler Wash Allotments	Develop AMPs for "I" allotments	Same	----	Same
	Manage the Arrow Canyon, Hen Springs, Lucky Strike, and White Basin Allotments in accordance with the "moderate" management category guidelines	Develop AMPs for "M" category allotments	Same	----	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Livestock Grazing Management (cont.)</u>	<p>Custodially manage the Acton-Farrier, Black Butte, Dry Lake, Flat Top Mesa, Glendale, Jack Rabbit, Kyle Canyon, Lime Springs, Lower Mormon Mesa, Mesa Cliff, Muddy Mtns., Newberry Mtns., Overton Arm, Pittman Well, Pulsipher Wash, Roach Lake, Rose Spring, Rox, South Point, Spring Mtns., Stump Springs, Sunrise Mtn., Table Mtn., Toquop Sheep, Ute, Wheeler Slope, and Younts Spring Allotments</p> <p>Determine proper long-term stocking rates of domestic livestock on allotments, desirable numbers of wild horses and burros in HMAs, and populations of mule deer and bighorn sheep in their existing and potential habitat</p> <p>Manage perennial vegetation at a proper utilization rate to obtain a sustained yield and improve livestock forage condition</p>	<p>Manage allotments according to identified categories</p> <p>Maintain/improve condition of vegetation to desired plant community or PNC</p>	<p>Same</p> <p>Same</p>	<p>Same</p> <p>Same</p>	<p>Same</p> <p>Same</p>



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Livestock Grazing Management (cont.)</u>	----	Provide for increased plant vigor and productive capacity of perennial forage	Same	Same	Same
	----	Rehabilitate public range, when necessary	Same	Same	Same
	----	Manage other allotments as ephemeral	Same	Same	Same
	----	Develop range improvements for uniform distribution of livestock	Same	Same	Same
<u>Wild Horse and Burro Management</u>	Manage wild horses and burros in the Gold Butte, Muddy Mtns., Spring Mtns., and Eldorado Mtns. HMAs	Maintain healthy, viable herds in thriving ecological balance in the HMAs	Same	Same	Same
	Develop HMAPs for the following HMAs: Mt. Stirling, Amargosa, and Last Chance HMAs; Maintain Ash Meadows HMA as a horse-free area	Develop HMAPs for each HMA	Same	Same	Same
		Same	Same	Same	Same
	Manage wild horse and burro numbers at current population levels unless monitoring indicates that adjustments are necessary	Develop Long-Term Management Levels for wild horses and burros	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Wild Horse and Burro Management (cont.)</u>	----	Realign HMA boundaries in the following areas to gain more management control of populations: Red Rocks HMA, Lucky Strike HMA, Johnnie HMA, Trout Canyon HMA	Same	Same	Same
	----	Maintain or improve wild horse and burro habitat to desired plant community or PNC	Same	Same	Same
	----	Develop dependable water sources for wild horses and burros	Same	Same	Same
<u>Cultural Resource Management</u>	Develop CRMPs for Willow Springs and Muddy Mtns; prepare interpretive signs and a brochure for Willow Springs	Develop project plans for the following: Old Spanish Trail/Mormon Road; Las Vegas and Tonopah Railroad; Red Spring; Sandstone Quarry; Willow Spring; and Whitney Pockets sites to manage for public values	Same	Same	Same
	Preserve a representative sample of line shacks, mining cabins, and other isolated historic structures	Designate 13 ACECs (20,020 acres) for identified National Register eligible or listed sites	Same	Same	Same
	----	Research Virgin River Anasazi district	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Cultural Resource Management (cont.)</u>	Provide fire protection for Mt.Potosi Cabin, Wheeler Pass Charcoal Kilns, Searchlight Mining District, Virgin Mountain Cabin, Goodsprings Mining District, Trout Canyon Cabin, Mt. Potosi Mines, South McCullough Wickiup, and the Crescent Peak District	Manage cultural resources at Red Rock and Stump Springs, Hidden Valley district, Bird Spring site, Sloan rock art site, Crescent; Gold Butte; Goodsprings; and Searchlight mining districts; and South Virgin Peak Ridge district for conservation of scientific or historic values	Same	Same	Same
	-----	Manage cultural resources within Arrow Canyon rock art district, Brownstone Canyon NR district, Keyhole Canyon, Frenchman Mine, and Gypsum Cave for public values	Same	Same	Same
	Initiate regular and systematic patrols of specific areas and/or sites with high cultural sensitivity	Use surveillance to monitor known cultural and paleontological sites; install protective devices as appropriate	Same	Same	Same
	Protect and preserve important paleontological sites	Designate 40 acre ACEC within Arrow Canyon Bird Track paleontological district	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Cultural Resource Management (cont.)</u>	----	Manage 12,000 acres within Muddy Creek and Eglingston Escarpment districts for information potential	Same	Same	Same
<u>Lands Management</u>	Dispose of 163,673 acres of public lands by the most appropriate authority	155,258 acres are available for disposal through sale, exchange, color-of-title or R&PP patent	540,171 acres are available for disposal through sale, exchange, color-of-title or R&PP patent	98,943 acres are available for disposal through sale, exchange, color-of-title or R&PP patent	540,171 acres are available for disposal through sale, color-of-title, or R&PP patent; all public lands (excluding ACECs, TMAs, Category I and II tortoise habitat, and WSAs) are available for exchange
	Grant leases/permits (Sec. 302 of FLPMA) for private or commercial uses throughout the planning area on a case-by-case basis	Grant leases/permits (Sec. 302 of FLPMA) for private and commercial uses (ACECs excluded) on a case-by-case basis	Same as Alt.A	All public lands are closed to leases/permits (Sec. 302 of FLPMA)	Same as Alt A
	Grant leases for agricultural uses throughout the planning area for the Muddy River and Virgin River floodplains	All public lands are closed to agricultural entry	Same	Same	Same
	Classify 75,246 acres for retention under C&MU	----	----	----	----

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Lands Management</u> <u>(cont.)</u>	Grant airport leases within Clark County	Grant airport leases on a case-by-case basis only in the following areas and outside of ACEC boundaries: within a 2 mile radius of Jean and Searchlight and within a 3 mile radius of Pahrump	Grant airport leases (ACECs excluded) on a case-by-case basis	Same as Alt. A	Same as Alt. B
	Withdraw 634 acres for protection and retention purposes (BLM discretionary withdrawals)	Withdraw 445,600 acres for protection and retention purposes (BLM discretionary withdrawals)	Withdraw 445,600 acres for protection and retention purposes (BLM discretionary withdrawals)	Withdraw 1,755,303 acres for protection and retention purposes (BLM discretionary withdrawals)	Withdraw 387,985 acres for protection and retention purposes (BLM discretionary withdrawals)
<u>Natural Areas</u> <u>Management</u>	Manage Pine Creek Research Natural Area (150 acres)	Manage Pine Creek Research Natural Area (150 acres) under mgt. direction of Red Rock Canyon ACEC	Same	Same	Same
	Manage Sunrise Mtn. Outstanding Natural Area (10,240 acres)	Change to Sunrise Mtn. Research Natural Area; manage under direction of Sunrise Mtn./Rainbow Gardens ACEC (31,400 acres)	Same	Same	Same
	Virgin Mtn. Outstanding Natural Area (6,560 acres)	Manage Virgin Mtns. as Outstanding Natural Area under mgt. direction of Virgin Mtn. ACEC (6,560 acres)	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Natural Areas Management (cont.)</u>	---	Manage Devil's Throat as Natural Hazard Area under mgt. direction of Gold Butte ACEC (5 acres)	Same	Same	Same
<u>Recreation Management</u>	---	Designate Recreation Management Areas and use ROS management prescriptions	Same as Alt. A	Designate Recreation Management Areas, use ROS management prescriptions, and manage activities at levels consistent with the recovery of the desert tortoise	Same as Alt. A
	Manage the Virgin River Recreation Lands (4,930 acres) for open space, wildlife, and river access as related to recreation	---	---	---	---
	Manage Red Rock Canyon NCA in accordance with the 1977 Master Plan (and as mandated by the recent NCA legislation)	Manage 32,470 acres in NCA for semi-primitive non-motorized opportunities; manage 50,630 acres for intensive opportunities while maintaining scenic integrity	Same as Alt. A	Same as Alt. A	Same as Alt. A
	----	Allow recreation concessions only in intensively managed recreation areas	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> <u>(cont.)</u>	----	Prohibit all recreational and target shooting below 5,000 ft.	Same	Same	Same
	----	Expand RRCNCA boundaries to include identified areas	Same	Same	Same
	Manage the Las Vegas Dunes ORV Play Area (9,000 acres) for recreational OHV values	Nellis Dunes SRMA: Manage 9,180 acres for intensive OHV recreational use	Same	Same	Same
	----	Determine appropriate number of OHV events for SRMA	Same	Same	Same
	----	Encourage recreation concession leases that enhance OHV use of SRMA	Same	Same	Same
	----	Prohibit recreational and target shooting in SRMA	Same	Same	Same
	Manage Red Rock Canyon SRMA, Clark SRMA, Spring Mtn. SRMA, and Stateline ERMA for recreational values	Gold Butte SRMA: Manage 126,006 acres for semi-primitive opportunities and 153,959 acres for low to moderate opportunities	Same	Same	Same
	----	Prohibit all competitive OHV events and recreation concessions in Gold Butte SRMA	Same	Same	Same
<u>Recreation Management</u> <u>(cont.)</u>	----	Establish 3 semi-developed	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		camping/picnicking facilities in areas compatible with desert tortoise recovery in Gold Butte SRMA			
	----	Muddy Mtns. SRMA: Manage 123,377 acres for semi-primitive opportunities	Same	Same	Same
	----	Prohibit all competitive OHV events except for 1 designated course in Bitter Springs area of Muddy Mtns. SRMA	Prohibit all competitive OHV events in Muddy Mtns. SRMA	Same as Alt. B	Same as Alt. A
	----	Establish 2 semi-developed camping/picnicking facilities outside of the WSA in Muddy Mtns. SRMA	Same	Same	Same
	----	Arrow Canyon SRMA: Manage 31,700 acres for semi-primitive opportunities; prohibit all commercial and competitive OHV events; establish a day-use recreation facility	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> <u>(cont.)</u>	----	Sunrise Mtn. SRMA: Manage 31,400 acres for intensive recreational uses, scenic, and geological values	Same	Same	Same
	----	Prohibit all competitive OHV events and allow recreation concessions in Sunrise Mtn. SRMA	Same	Same	Same
	----	Prohibit recreational and target shooting except in designated areas of Sunrise Mtn. SRMA	Same	Same	Same
	----	Designate a Back Country Byway in Sunrise Mtn. SRMA; develop a camping/picnicking facility	Same	Same	Same
	----	Jean/Roach Dry Lake SRMA: Manage 113,298 acres for intensive OHV opportunities	Same	Same	Same
	----	Determine an appropriate number of OHV per year; allow recreation concessions	Same	Same	Same
	----	Eldorado Valley SRMA: Manage 71,099 acres for intensive recreation opportunities	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> <u>(cont.)</u>	----	Determine an appropriate number of OHV events for Eldorado Valley SRMA per year	Same	Same	Same
	----	Nelson Hills SRMA: Manage 43,705 acres for low to moderate uses and semi-primitive opportunities at Keyhole Canyon	Same	Same	Same
	----	Allow competitive and commercial activities in Nelson Hills SRMA except for Keyhole Canyon; prohibit recreation concessions	Same	Same	Same
	----	Christmas Tree Pass SRMA: Manage 55,960 acres for semi-primitive opportunities	Same	Manage 55,960 acres for semi-primitive recreation; visitor use will be managed at levels consistent with the recovery of the desert tortoise	Same as Alt. A
	----	Prohibit all competitive OHV events in Christmas Tree Pass SRMA	Same	Same	Same
	----	Allow recreation concessions outside of Category 1 and 2 tortoise habitat in Christmas Tree Pass SRMA	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> <u>(cont.)</u>	----	Establish one semi-developed camping facility in Christmas Tree Pass SRMA	Same	Same	Same
	----	Desert View SRMA: Manage 90,825 acres for interpretation of scenic and ecologic transition zone	Same	Do not designate a SRMA	Same as Alt. A
	----	Manage the viewshed along Kyle and Lee Canyon Highway as Scenic Byway	Same	Do not designate a SRMA	Same as Alt. A
	----	Prohibit all competitive OHV events; allow non-OHV competitive and commercial events and recreation occasions in Desert View SRMA	Same	Do not designate a SRMA	Same as Alt. A
	----	Big Dune SRMA: Manage 1000 acres for low to moderate OHV and recreation activities	Same	Do not designate a SRMA	Same as Alt. A
	----	Prohibit all competitive events in Big Dune SRMA	Same	Close area to all motorized activity	Same as Alt. A
	----	Prohibit commercial events within special status species habitat of Big Dune SRMA	Same	Do not designate a SRMA	Same as Alt. A

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> <u>(cont.)</u>	----	Prohibit recreation concessions in Big Dune SRMA	Same	Do not designate a SRMA	Same as Alt. A
	----	Old Spanish Trail/Mormon Road SRMA: Manage 112 miles as a National Historic Trail; seek designation as such	Same	Same	Same
	----	Prohibit OHV competitive events and recreation concessions on remaining portions of the Old Spanish Trail/Mormon Road	Same	Same	Same
	----	Allow competitive OHV events to cross the Old Spanish Trail/Mormon Road where appropriate	Same	Same	Same
	----	Stateline ERMA: Manage 2,661,907 acres for dispersed and diverse opportunities that meet ROS objectives	Same	Manage 2,753,732 acres of Stateline ERMA for dispersed and diverse opportunities that meet ROS objectives and that are compatible with recovery of the desert tortoise	Same as Alt. A



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> <u>(cont.)</u>	----	Prohibit competitive OHV events in Stateline ERMA except for one course in each of following areas: Dry Lake Valley area; Pahrump to Beatty; Mt. Stirling/Mercury area; Highland Hills area; Laughlin area; Bitter Springs area	Prohibit OHV competitive events throughout Stateline ERMA except for one course in each of the following areas: Dry Lake Valley area; Pahrump to Beatty; Mt. Stirling/Mercury; Highland Hills area	Prohibit OHV competitive events throughout Stateline ERMA except for one designated course, Pahrump to Beatty	Same as Alt. A
	----	Allow non-OHV competitive and commercial events and recreation concessions in Stateline ERMA, subject to conflict resolution	Same	Same	Same
	----	Prohibit recreational and target shooting in the Las Vegas Valley	Same	Same	Same
	----	----	----	Designate Kyle and Lee Canyon Highway and Searchlight to Nipton Highway as Scenic Byways	Same as Alt. C
	Designate 2,900,998 acres OPEN for casual OHV use	Designate 9,180 acres OPEN for casual OHV use	Same	Same	Same
	Designate 696,175 acres as LIMITED to existing roads, trails, and washes for casual OHV use	Designate 2,524,889 acres as LIMITED to existing roads, trails, and washes for casual OHV use	Designate 2,136,029 acres as LIMITED to existing roads, trails, and washes for casual OHV use	Designate 1,871,444 acres as LIMITED to existing roads, trails, and washes for casual OHV use	Same as Alt. A
<u>Recreation Management</u> <u>(cont.)</u>	Designate 70,641 acres as LIMITED to designated	Designate 1,124,868 acres as LIMITED to	Designate 1,513,728 acres as LIMITED to	Designate 1,777,313 acres as LIMITED to	Same as Alt. A

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	roads, trails, and washes for casual OHV use	designated roads, trails, and washes for casual OHV use	designated roads, trails, and washes for casual OHV use	designated roads, trails, and washes for casual OHV use	
	Designate 3,313 acres as CLOSED to casual OHV use	Designate 12,190 acres as CLOSED to casual OHV use	Same as Alt. A	Designate 13,190 acres as CLOSED to casual OHV use	Same as Alt. A
	Allow competitive OHV use on 2,655,278 acres	Allow competitive OHV use on 238,162 acres	Same	Same	Same
	In WSAs, all vehicle use is LIMITED to existing roads, trails, and washes unless current designations are more restrictive	Same	Same	Same	Same
	---	Determine primary resource value in each significant cave	Same	Same	Same
	---	Manage all caves and karsts as wild systems, free from commercial or show cave developments	Same	Same	Same
	----	Establish registration systems for significant caves, as needed	Same	Same	Same
	----	Designate all caves and karsts as ROW avoidance areas	Same	Same	Same
<u>Wild and Scenic Rivers Management</u>	Coordinate with the Cedar City and Arizona Strip Districts on a formal study of the Virgin River	Same	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	for eligibility				
<u>Rights-of-Way Management</u>	Designate 61 miles of utility corridors (for planning purposes) in Planning Area B of southern Nye County	Designate 590 miles of utility corridors (for planning purposes) in Clark and southern Nye counties	Designate 590 miles of utility corridors (for planning purposes) in Clark and southern Nye counties	Designate 476 miles of utility corridors (for planning purposes) in Clark and southern Nye counties	Designate 536 miles of utility corridors (for planning purposes) in Clark and southern Nye counties
-----		Exclusive of designated corridors, designate all ACECs, semi-primitive non-motorized ROS areas, significant caves (within 1/4 mile), WSAs, and RRCNCA as right-of-way avoidance areas (1,938,845 acres)	Exclusive of designated corridors, designate all ACECs, semi-primitive non-motorized ROS areas, significant caves (within 1/4 mile), WSAs, and RRCNCA as right-of-way avoidance areas (2,317,745 acres)	Exclusive of designated corridors, designate all ACECs, semi-primitive non-motorized ROS areas, significant caves (within 1/4 mile), WSAs, and RRCNCA as right-of-way avoidance areas (2,325,205 acres)	Same as Alt. A
-----	Designate all ACECs as material site right-of-way exclusion areas (1,151,938 acres)	Designate all Category I tortoise habitat as material site right-of-way exclusion areas (364,000 acres)	Designate all ACECs as material site right-of-way exclusion areas (1,538,298 acres)	Designate all ACECs as areal right-of-way exclusion areas (1,151,938 acres); designate Hidden Valley District ACEC, Sloan Rock Art ACEC, and Big Dune ACEC as linear right-of-way exclusion areas (4,680 acres)	
<u>Wilderness Management</u>	Manage 21 WSAs in accordance with the IMP until designated or released by Congress	Same	Same	Same	Same
<u>Wilderness Management (cont.)</u>	-----	Recommend 20,299 acres of the Logandale WSA as not suitable for wilderness designation	Same	Same	Same



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
	-----	If released by Congress, manage 22 WSAs in accordance with applicable SRMA or ACEC management direction	Same	Same	Same
<u>Minerals Management</u> <u>Fluid Minerals</u>	All public lands within the SRA are OPEN for fluid mineral activities except for legislatively withdrawn areas, other withdrawn and segregated areas, and bighorn sheep habitat. Allow fluid mineral leasing, subject to standard terms and conditions, on 747,779 acres	Allow fluid mineral leasing, subject to standard terms and conditions, on 1,833,000 acres. Allow fluid mineral leasing, subject to standard terms and conditions, on 755,654 acres. Allow fluid mineral leasing, subject to standard terms and conditions, on 531,844 acres			
	-----	Allow fluid mineral leasing, subject to seasonal and other minor constraints, on 3,205,952 acres	Allow fluid mineral leasing, subject to seasonal and other minor constraints, on 1,699,620 acres	Allow fluid mineral leasing, subject to seasonal and other minor constraints, on 1,886,509 acres	Allow fluid mineral leasing, subject to seasonal and other minor constraints, on 3,936,500 acres

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Minerals Management</u> <u>Fluid Minerals (cont.)</u>	----	Allow fluid mineral leasing, subject to no surface occupancy and similar major constraints, on 15,133 acres	Allow fluid mineral leasing, subject to no surface occupancy and similar major constraints, on 296,362 acres	Allow fluid mineral leasing, subject to no surface occupancy and similar major constraints, on 9,558 acres	Allow fluid mineral leasing, subject to no surface occupancy and similar major constraints, on 0 acres
	----	Do not allow fluid mineral leasing on 716,226 acres	Do not allow fluid mineral leasing on 856,108 acres	Do not allow fluid mineral leasing on 2,033,369 acres	Do not allow fluid mineral leasing on 216,746 acres
	----	Fluid mineral activities are allowed in bighorn sheep habitat subject to seasonal restrictions	Same as Alt. A	Same as Alt. A	Same as Alt. A
<u>Minerals Management</u> <u>(cont.)</u> <u>Locatable Minerals</u>	All public lands within the planning area are OPEN for locatable mineral activities except for legislatively withdrawn areas and other withdrawn and segregated areas	Allow locatable mineral activity on 3,703,833 acres  Do not allow locatable mineral activity on 937,100 acres	Allow locatable mineral activity on 3,158,567 acres  Do not allow locatable mineral activity on 1,482,870 acres	Allow locatable mineral activity on 2,328,265 acres  Do not allow locatable mineral activity on 2,312,668 acres	Allow locatable mineral activity on 4,008,868 acres  Do not allow locatable mineral activity on 632,065 acres

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Minerals Management (cont.)</u> <u>Salable Minerals</u>	The Las Vegas Valley is CLOSED to sand and gravel sales except in established community pits; free use permits will be issued; administer sand and gravel leases within and outside of the Las Vegas Valley Subunit consistent with the Clark County MFP amendment	Deny existing sand and gravel applications; close Las Vegas and Laughlin land disposal areas to mineral material disposal (65,993 acres); sand and gravel leasing same as No Action Alternative	Deny existing sand and gravel lease applications; close Las Vegas and Laughlin land disposal areas to mineral material disposal (111,524 acres); sand and gravel leasing same as No Action Alternative	Deny existing sand and gravel lease applications; close Las Vegas and Laughlin land disposal areas to mineral material disposal (61,273 acres); sand and gravel leasing same as No Action Alternative	Deny existing sand and gravel lease applications; open Las Vegas and Laughlin land disposal areas to mineral material disposal (111,524 acres); sand and gravel leasing same as No Action Alternative
	The remainder of the public lands are OPEN for saleable mineral activities except for legislatively withdrawn areas and other withdrawn and segregated areas	Allow saleable mineral disposal on 2,959,709 acres  Do not allow saleable mineral disposal on 1,682,219 acres	Allow saleable mineral disposal on 2,561,798 acres  Do not allow saleable mineral disposal on 2,080,130 acres	Allow saleable mineral disposal on 2,533,021 acres  Do not allow saleable mineral disposal on 2,108,907 acres	Allow saleable mineral disposal on 4,035,390 acres  Do not allow saleable mineral disposal on 606,538 acres
<u>Non-Energy Leasable Minerals</u>	All public lands within the planning area are OPEN for non-energy leasable mineral activities except for legislatively withdrawn areas and other withdrawn and segregated areas	Allow non-energy leasing on 3,943,316 acres  Do not allow non-energy leasing on 721,759 acres	Allow non-energy leasing on 3,522,205 acres  Do not allow non-energy leasing on 1,142,870 acres	Allow non-energy leasing on 2,660,386 acres  Do not allow non-energy leasing on 2,004,689 acres	Allow non-energy leasing on 4,448,329 acres  Do not allow non-energy leasing on 216,746 acres
<u>Acquisitions</u>	Private and State of Nevada lands within Red Rock Canyon	All private lands within designated ACECs (4382 acres)	All private lands within designated ACECs (8,634 acres)	All private lands within designated ACECs and TMAs (6,372 acre)	Same as Alt. B
<u>Acquisitions (cont.)</u>	-----	All private lands within Ash Meadows ACEC but	Same as Alt. A	Same as Alt. A	Same as Alt. A



Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
		outside refuge boundary (415 acres)			
	---	If the opportunity arises, acquire 7,882 acres conveyed to Aerojet Corporation in Coyote Springs Valley	---	Same as Alt. A	---
	---	Obtain an easement on or across Pabco Tram Road	Same as Alt. A	Same as Alt. A	Same as Alt. A
<u>Fire Management</u>	The entire planning area (3,671,341 acres of public land) is a full suppression area	Same	Same	Same	Same
	3,671,341 acres of public land are available for prescribed burning for resource enhancement purposes	149,231 acres of public land are available for prescribed burning for resource enhancement purposes	Same	Same	Same
	3,671,341 acres of public land are available for prescribed burning for fuel hazard reduction purposes	232,109 acres of public land are available for prescribed burning for resource enhancement purposes	Same	Same	Same
	Develop a fire management activity plan for the SRA	Same	Same	Same	Same

Table S-1 Summary of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fire Management (cont.)</u>	Designate 1,163,808 acres as a 10-acre initial attack area	Same	Same	Same	Same
	Designate 1,384,997 acres as a 100-acre initial attack area	Same	Same	Same	Same
	Designate 1,122,322 acres as a 500-acre initial attack area	Same	Same	Same	Same
<u>Special Management Areas</u>	No ACECs	Designate 1,151,938 acres in 18 different areas as ACECs	Designate 1,530,838 acres in 20 different areas as ACECs	Designate 1,538,298 acres in 19 different areas as ACECs	Same as Alt. A

Table S-2 Impacts of the Alternatives

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Air Resource Management</u>					
From Lands Management	Increases of between 907 and 2,384 tons per year in airborne particulates and 91 to 238 tons per year of carbon monoxide in the Las Vegas Valley Non-Attainment Area.	Same	Same	Same	Same as No Action
From Recreation Management	OHV events within or upwind of Las Vegas Valley could result in temporary but significant impacts to Non-Attainment Area through an increase in airborne particulates	Same	Same	Proper meteorological conditions could potentially result in a temporary but significant increase in airborne particulates in the Non-Attainment Area, despite limitations on OHV events	Same as Alt. C
From Minerals Management	Particulate emissions of 900 tons per year within the Las Vegas Valley Non-Attainment Area	Same	Same	Same	Same
<u>Soil Resource Management</u>					
From Livestock Grazing Management	Loss of 650,654 tons per year on critical condition and highly susceptible soils; Loss of 114,080 tons per year of saline soils	Same	Same	Loss of 224,655 tons per year on critical condition and highly susceptible soils; Loss of 1,905 tons per year of saline soils	Loss of 590,512 tons per year on critical condition and highly susceptible soils; Loss of 94,015 tons per year of saline soils



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Soil Resource Management (cont.)</u>					
From Recreation Management	Loss of 128,357 tons per year of critical condition and highly susceptible soils; loss of 89,353 tons per year of saline soils within Colorado River drainage	Loss of 55,347 tons per year of critical condition and highly susceptible soils; loss of 33,348 tons per year of saline soils within Colorado River drainage	Loss of 81,027 tons per year of critical condition and highly susceptible soils; loss of 28,061 tons per year of saline soils within Colorado River drainage	Loss of 79,495 tons per year of critical condition and highly susceptible soils; loss of 26,446 tons per year of saline soils within Colorado River drainage	Same as Alt. C
From Rights-of-Way Management	Loss of 31,414 tons per year of critical condition and highly susceptible soils; Loss of 28,594 tons per year of saline soils in Colorado River drainage	Loss of 4,463 tons per year of critical condition and highly susceptible soils; Loss of 6,541 tons per year of saline soils in Colorado River drainage	Loss of 4,463 tons per year of critical condition and highly susceptible soils; Loss of 6,591 tons per year of saline soils in Colorado River drainage	Loss of 4,463 tons per year of critical condition and highly susceptible soils; Loss of 5,135 tons per year of saline soils in Colorado River drainage	Loss of 4,463 tons per year of critical condition and highly susceptible soils; Loss of 5,582 tons per year of saline soils in Colorado River drainage
From Mineral Management	Loss of 47,118 tons per year of critical condition and highly susceptible soils; Loss of 28,171 tons per year of saline soils in the Colorado River drainage	Loss of critical condition soils and highly susceptible soils: 11,936 tons from leasable mineral entry, 10,533 tons from mineral sales, 13,082 tons from non-energy leasables; Annual loss of saline soils in Colorado River drainage: 7,975 tons from leasable mineral entry, 6,152 tons mineral sales, 7,975 tons from non-energy leasables	Loss of critical condition soils and highly susceptible soils: 12,192 tons from leasable mineral entry, 10,520 tons from mineral sales, 11,880 tons from non-energy leasables; Annual loss of saline soils in Colorado River drainage: 6,392 tons from leasable mineral entry, 5,936 tons mineral sales, 5,296 tons from non-energy leasables	Loss of critical condition soils and highly susceptible soils: 10,755 tons from leasable mineral entry, 18,807 tons from mineral sales, 9,876 tons from non-energy leasables; Annual loss of saline soils in Colorado River drainage: 4,231 tons from leasable mineral entry, 4,556 tons mineral sales, 4,175 tons from non-energy leasables	Loss of critical condition soils and highly susceptible soils: 14,608 tons from leasable mineral entry, 14,206 tons from mineral sales, 13,669 tons from non-energy leasables; Annual loss of saline soils in Colorado River drainage: 7,964 tons from leasable mineral entry, 8,996 tons mineral sales, 7,964 tons from non-energy leasables

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Water Resource Management</u>					
From Livestock Grazing Management	48,799 tons per year delivered to stream channels from critical condition and highly susceptible soils; 8,556 tons per year of saline sediments within Colorado River drainage	Same	Same	16,849 tons per year delivered to stream channels from critical condition and highly susceptible soils; 143 tons per year of saline sediments within Colorado River drainage	44,288 tons per year delivered to stream channels from critical condition and highly susceptible soils; 7,051 tons per year of saline sediments within Colorado River drainage
From Lands Management	Annual increase of 1,512 to 3,974 acre-feet of water used per year within the Las Vegas Valley due to land disposal	Same	Same	Same	Same
From Recreation Management	9,627 tons per year delivered to stream channels from critical condition and highly susceptible soils; 6,701 tons per year of saline sediments within the Colorado River drainage	4,151 tons per year delivered to stream channels from critical condition and highly susceptible soils; 2,501 tons per year of saline sediments within the Colorado River drainage	6,077 tons per year delivered to stream channels from critical condition and highly susceptible soils; 2,105 tons per year of saline sediments within the Colorado River drainage	5,962 tons per year delivered to stream channels from critical condition and highly susceptible soils; 1,983 tons per year of saline sediments within the Colorado River drainage	Same as Alt. C
From Rights-of-Way Management	2,356 tons per year delivered to stream channels from critical condition and highly susceptible soils; 2,145 tons per year of saline sediments within Colorado River drainage	355 tons per year delivered to stream channels from critical condition and highly susceptible soils; 491 tons per year of saline sediments within Colorado River drainage	355 tons per year delivered to stream channels from critical condition and highly susceptible soils; 494 tons per year of saline sediments within Colorado River drainage	355 tons per year delivered to stream channels from critical condition and highly susceptible soils; 385 tons per year of saline sediments within Colorado River drainage	355 tons per year delivered to stream channels from critical condition and highly susceptible soils; 419 tons per year of saline sediments within Colorado River drainage



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Water Resource Management (cont.)</u>					
From Minerals Management	3,534 tons per year delivered to stream channels from critical condition and highly susceptible soils; 2,113 tons per year of saline sediments within Colorado River drainage	Tons per year delivered to stream channels from critical condition and highly susceptible soils; 895 from leasable mineral entry, 790 from mineral sales, 981 from non-energy leasables; Tons per year of saline sediments within the Colorado River drainage: 776 from leasable mineral entry, 1,064 from mineral sales, 837 from non-energy leasables	Tons per year delivered to stream channels from critical condition and highly susceptible soils; 914 from leasable mineral entry, 789 from mineral sales, 891 from non-energy leasables; Tons per year of saline sediments within the Colorado River drainage: 479 from leasable mineral entry, 445 from mineral sales, 397 from non-energy leasables	Tons per year delivered to stream channels from critical condition and highly susceptible soils; 807 from leasable mineral entry, 1,411 from mineral sales, 741 from non-energy leasables; Tons per year of saline sediments within the Colorado River drainage: 317 from leasable mineral entry, 342 from mineral sales, 313 from non-energy leasables	Tons per year delivered to stream channels from critical condition and highly susceptible soils; 1,096 from leasable mineral entry, 1,065 from mineral sales, 1,025 from non-energy leasables; Tons per year of saline sediments within the Colorado River drainage: 579 from leasable mineral entry, 675 from mineral sales, 479 from non-energy leasables
<u>Vegetation Management</u>					
From Vegetation Management	Long-term improvement from management to achieve full ecological potential;	Same	Same	Same	Same
From Riparian Management	Deterioration of vegetation in riparian areas	Mitigation of impacts through management	Same	Same	Same
From Livestock Grazing Management	Moderate to slight adverse impacts from livestock grazing	Slight adverse impacts from livestock grazing; benefits from closures to livestock grazing	Same as Alt. A	Beneficial impacts on allotments within designated ACECs which restrict livestock grazing	Same as Alt. A



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Vegetation Management</u> (cont.)					
From Recreation Management	Deterioration of vegetation from unrestricted OHV use	Beneficial impacts from closures and restrictions placed on OHV use	Same	Same	Same
From Rights-of-Way Management	Short-term site specific adverse impacts from right-of-way activities	Same	Same	Same	Same
From Minerals Management	Short-term, site-specific adverse impacts from mining activities	Short-term, site-specific adverse impacts on few acres available to mining/mineral extraction operations	Same	Same	Same
<u>Riparian Management</u>					
From Riparian Management	Long-term benefits through maintenance, restoration or improvement of riparian values to healthy, productive ecological condition; 75% of riparian areas in proper functioning condition by 1997	Same	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Riparian Management</u> (cont.)					
From Livestock Grazing Management	Concentration of grazing in riparian areas on 10 active allotments would significantly degrade those areas on 80 springs (approx. 40 acres of riparian) and the Virgin River (approx. 190 acres of riparian)	Concentration of grazing in riparian areas on 10 active allotments would significantly degrade those areas on 80 springs (approx. 40 acres of riparian); No impact on the Virgin River (190 acres)	Same	Concentration of grazing in riparian areas on 2 active allotments would significantly degrade those areas on 38 springs (approximately 19 acres of riparian); No impact on the Virgin River (190 acres)	Same as Alt. A
From Wild Horse and Burro Management	Concentration of wild horses and burros in riparian areas on 5 HMAs would significantly degrade those areas on 58 springs (approx. 29 acres of riparian)	Same	Same	Same	Same
<u>Visual Resource Management</u>					
From Visual Resource Management	Positive impacts	Positive impacts from designation of VRM classes in planning area	Same	Same	Same
From Livestock Grazing Management	Impacts to form, line, color, and texture as result of range developments	Same	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Visual Resource Management (cont.)</u>					
From Lands Management	Loss of natural landscape in Las Vegas Valley, Mesquite, Laughlin, and Pahrump due to urban development	Same	Same	Same	Same
From Recreation Management	Impacts from OHV use as new roads and trails are created; short-term temporary impacts in RRCNCA resulting from development of new facilities	Same	Same	Same	Same
From Minerals Management	Impacts to form, line, color, and texture from mining and sand and gravel operations; approximately one-half of these impacts would cause long-term scars to landscape	Same	Same	Same	Same
<u>Fish and Wildlife Habitat Management</u>					
From Water Resource Management	Positive impacts from implementation Riparian Mgt. Strategy Plan and Riparian Action Plan and long-term improvements in riparian habitat	Same	Same	Same	Same



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Vegetation Management	Positive impacts as result of management to achieve full ecological potential or potential natural community	Positive impacts from management to achieve potential natural community; Amargosa mesquite ACEC, Stump Springs and Meadow Valley Wash managed to maintain mesquite stands	Same	Same	Same
From Riparian Management	Significant positive impacts to wildlife and T&E species from implementation of Riparian Management Strategy Plan and Riparian Action Plan	Same	Same	Same	Same
From Fish and Wildlife Habitat Management	Habitat would continue to be managed to sustain or increase existing wildlife populations	Same	Same	Same	Same
From Livestock Grazing Management	Positive impacts on tortoise as 2,795,792 acres open to livestock grazing would be managed under Section 7 prescriptions	Positive impacts on tortoise as 2,595,247 acres open to livestock grazing would be managed under Section 7 prescriptions	Positive impacts on tortoise as 2,595,247 acres open to livestock grazing would be managed under Section 7 prescriptions	Positive impacts on tortoise as the 1,001,767 acres open to livestock grazing would be managed under Section 7 prescriptions	Positive impacts to tortoise as the 2,341,875 acres open to livestock grazing would be managed under Section 7 prescriptions

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Livestock Grazing Management (cont.)	Positive impacts to T&E and other wildlife species in Ash Meadows from closure of 875,335 acres to livestock grazing	Positive impacts to T&E and other wildlife species from 1,075,880 acres closed to livestock grazing	Same	Positive impacts to T&E and other wildlife species from the 2,669,360 acres closed to livestock grazing, including 1,356,680 acres of tortoise ACECS; positive impacts on T&E species in Ash Meadow and Virgin River from closure to livestock grazing	Positive impacts to T&E and other species by closure of 1,329,252 acres to grazing, including acreage along the Virgin River, in Ash Meadows ACEC, Piute Valley ACEC, and Coyote Springs/Arrow Canyon ACEC
From Wild Horse and Burro Management	Managing wild burros in Gold Butte HMA to maintain thriving ecological balance would significantly improve habitat and benefit some species of wildlife	Same	Same	Same	Same
From Lands Management	Significant negative impacts on desert tortoise from disposal of Category I and II habitat	Positive impacts on desert tortoise as no habitat within ACECS would be available for sale or lease	Same	Same	Same
	Negative impacts on T&E species in Ash Meadows from location of an airport lease within BLM inholding on the refuge	Positive impacts on T&E species as no airport lease would be allowed in ACECS	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Lands Management (cont.)	Legislative disposals continue to impact desert tortoise	Same	Same	Same	Same
	---	Positive impact on T&E species as Ash Meadows and Big Dune ACECs would be withdrawn from all public land laws	Same	Positive impact on T&E species as 1,356,680 acres in tortoise ACECs, 37,078 acres in Ash Meadows, and 1,000 acres in Big Dune would be withdrawn from all public land laws	Positive impact on T&E species as Ash Meadows would be withdrawn from all public land laws
From Recreation Management	Impacts to tortoise continue on 2,900,998 acres designated as open to OHV use: 77% of Category I and 66% of Category II habitat would remain open to casual OHV use	Positive impacts to tortoise habitat as acreage open to OHV use would decrease by 99%; acreage "limited to existing roads and trails" would increase by 263%; acreage "limited to designated roads and trails" would increase by 1,492%	Impacts same as Alt.A, with an additional 388,860 acres designated as "limited to designated roads and trails"	Positive impacts to special status species from closure of 1,000 acres of Big Dune ACEC to all OHV use; impacts same as Alt. A with an additional 1,777,313 acres designated as "limited to designated roads and trails"	Same as Alt. A
	---	Positive impacts to desert tortoise as acreage open to high-speed competitive OHV events would decrease by 91%	Same	Same	Same



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Wilderness Management	Positive short-term impact on desert tortoise and other wildlife habitat within WSAs	Same	Same	Same	Same
	Long-term positive impact on tortoise and bighorn sheep habitat if Fish and Wildlife WSAs No.1-3 are designated as wilderness	Same	Same	Same	Same
	Congressional release of WSAs would impact tortoise and bighorn habitat	Release of Fish and Wildlife WSAs No.1-3 would negatively impact tortoise and bighorn sheep habitat, since areas would not be withdrawn from mineral entry	Release of Fish and Wildlife WSAs No.1-3 would impact tortoise and bighorn sheep habitat, since area would be open to locatable mineral entry (closed to fluid mineral leasing and mineral materials under ACEC designation)	No impact on tortoise or bighorn sheep habitat if Fish and Wildlife WSAs No. 1-3 are released from wilderness; area would be designated as ACEC and withdrawn from mineral entry	Same as Alt.A
From Rights-of-Way Management	----	Negative impacts to T&E species from ROWs; positive impacts to T&E as all ACECs would be closed to material site ROWs; all ACECs would be ROW avoidance areas, outside of corridors	Only Category I tortoise habitat would be closed to material sites ROWs, resulting in continuing negative impacts to tortoise habitat outside of Category I habitat; other impacts same as Alt. A	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Rights-of-Way Management (cont.)	----	Negative impacts to tortoise from 590 miles of ROW corridors through Piute Valley, Ivanpah, Pahrump Valley, Coyote Springs/Arrow Canyon, and Virgin ACECs	Negative impacts to tortoise from 590 miles of ROW corridors through Piute Valley, Ivanpah, Pahrump Valley, Coyote Springs/Arrow Canyon, Virgin and Indian Springs ACECs	Negative impacts to tortoise from 476 miles of corridors through Piute Valley, Ivanpah, Coyote Springs, and Virgin ACECs; positive impacts to tortoise from elimination of Indian Springs and one-half of corridor through Coyote Springs/Arrow Canyon ACEC	Negative impacts to tortoise from 563 miles of corridors through Piute Valley, Ivanpah, Pahrump Valley and Virgin ACECs; positive impact to tortoise from elimination of one-half of corridor through Coyote Springs/Arrow Canyon ACEC
From Minerals Management	Negative impacts on wildlife, T&E species on 4,412,940 acres open to fluid mineral leasing; 4,208,846 acres open to locatables; 4,496,342 acres open to saleables; 4,448,329 acres open to non-energy leaseables	Negative impacts to tortoise habitat from mineral development on 3,968,864 acres open to fluid mineral leasing; 3,703,833 acres open to locatables; 3,943,316 acres open to non-energy leaseables; 2,959,709 acres open to saleables	Negative impacts to T&E species from mineral development on 3,828,982 acres open to fluid mineral leasing; 3,158,567 acres open to locatables; 2,561,798 acres open to saleables; 3,522,205 acres open to non-energy leaseables	Positive impacts to T&E species from closure of 2,033,369 acres to fluid mineral leasing; 2,312,668 acres to locatables; 2,108,907 acres to saleables, and 2,004,689 acres to non-energy leaseables	Impacts to tortoise from 4,468,344 acres open to fluid mineral leasing; 4,008,868 acres to locatables; 4,035,390 acres to mineral materials; 4,448,329 acres to non-energy leaseables
	----	Positive impact as all tortoise ACECs would be closed to mineral materials disposal and seasonal closures would be in effect for fluid mineral leasing	Same	Same	Negative impact on tortoise as all tortoise ACECs would remain open to mineral material disposal; positive impacts from seasonal closure on fluid mineral leasing

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Minerals Management (cont.)	----	Impact on candidate species as Big Dune ACEC would be open to fluid mineral leasing (subject to terms and conditions); locatables; mineral materials; non-energy leasables	Positive impact on candidate species as Big Dune ACEC would be closed to mineral materials; non-energy leasables; Negative impacts from Big Dune being open to locatables and oil and gas leasing could be significant	Positive impact on candidate species as Big Dune ACEC would be closed to locatables, mineral materials, and non-energy leasables; Negative impacts from locatable mineral exploration and development could be significant	Positive impact on candidate species as Big Dune would be open to fluid minerals leasing, subject to no surface occupancy and closed to locatables, mineral materials, and non-energy leasables
	----	Positive impact on T&E species in Ash Meadows and Virgin River ACECs from closure of 715,666 acres to fluid mineral leasing; 937,100 acres to locatables; 1,682,219 acres to mineral materials; 723,339 acres to non-energy leasables	Positive impacts on T&E species as Ash Meadows and Virgin River ACECs would be closed to fluid mineral leasing; locatables; mineral materials; and non-energy leasables	Same as Alt. B	Positive impact to tortoises from seasonal restrictions on fluid mineral leasing in all tortoise ACECs
From Special Management Areas	No ACECs would be designated for wildlife	Significant positive impacts to T&E species from designation of 37,078 acres as Ash Meadows ACEC, 970,160 acres of tortoise ACECs, and 1,000 as Big Dune ACEC	Significant positive impacts to T&E species from designation of 37,078 acres as Ash Meadows ACEC, 1,346,200 acres as tortoise ACECs, and 1,000 acres as Big Dune ACEC	Significant positive impacts to T&E species from designation of 37,078 acres as Ash Meadows ACEC, 1,356,680 acres as tortoise ACECs, and 1,000 acres as Big Dune ACEC	Same as Alt. A



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fish and Wildlife Habitat Management (cont.)</u>					
From Special Management Areas (cont.)	---	Positive impact on bighorn sheep with designation of River Mtns. ACEC; positive impact on wildlife from management of 83,100 acres of Red Rock NCA	Same	Same	Same
<u>Forestry Management</u>					
From Forestry Management	Slightly positive impact from mesquite wood harvest	Same	Same	Same	Same
	Positive impact from salvage sale of desert vegetation by making plants available to public	Same	Same	Same	Same
	Negative impact to program by closure of remainder of planning area to fuelwood harvest	Same	Same	Same	Same
<u>Livestock Grazing Management</u>					
From Air Resource Management	Short-term adverse impacts from management actions	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Livestock Grazing Management (cont.)</u>					
From Soil Resource Management	Short-term adverse impacts from management actions	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same
From Water Resource Management	Short-term adverse impacts from management actions	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same
From Vegetation Management	Short-term adverse impacts from management actions;	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same
From Riparian Management	Short-term adverse impacts from management actions	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same
From Fish and Wildlife Habitat Management	Adverse impacts from management actions and Section 7 consultation	Same	Same	Long-term adverse impact from closure of desert tortoise habitat to livestock grazing	Same
From Livestock Grazing	Mitigation of adverse impacts through development of grazing systems	Same	Same	Adverse impacts with only 5 allotments open to grazing	Same
From Recreation Management	Adverse impacts from OHV use throughout the planning area	Beneficial impacts from closure of 92% of planning area to unlimited OHV use	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Livestock Grazing Management (cont.)</u>					
From Recreation Management (cont.)	Adverse impacts from recreational hunting and shooting	Same	Same	Same	Same
<u>Wild Horse and Burro Management</u>					
From Air Resource Management	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same	Same
From Soil Resource Management	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same	Same
From Water Resource Management	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same	Same
From Vegetation Management	Long-term beneficial impacts from vegetative manipulations	Same	Same	Same	Same
From Riparian Management	Short-term adverse impacts from management actions; long-term benefits	Same	Same	Same	Same
From Fish and Wildlife Habitat Management	Adverse impacts from wildlife expanding into HMAs	Same	Same	Same	Same



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Wild Horse and Burro Management (cont.)</u>					
From Livestock Grazing Management	Minor adverse impacts from livestock grazing in all HMAs	Same	Same	Adverse impacts would only occur from livestock grazing in Gold Butte and Muddy Mtns. HMAs	Same as Alt. A
From Wild Horse and Burro Management	Adverse impacts from development of fences and roads in HMAs	Same	Same	Same	Same
From Recreation Management	Adverse impacts from unrestricted OHV use and recreational shooting and hunting in planning area	Same	Same	Same	Same
From Rights-of-Way Management	Minor, short-term adverse impacts along ROWs in HMAs	Same	Same	Same	Same
From Minerals Management	Minor short-term impacts from mineral activities	Same	Same	Same	Same
<u>Cultural Resource Management</u>					
From Riparian Management	Positive impacts from required inventories in high sensitivity areas	Same	Same	Same	Same
From Fish and Wildlife Habitat Management	No significant impacts	Designation of 1,017,838 acres as ACECs aids in preserving 2,000 eligible sites	Designation of 1,404,358 acres as ACECs aids in preserving 2,800 eligible sites	Designation of 1,409,478 acres as ACECs aids in preserving 2,800 eligible sites	Same as Alt. A
<u>Cultural Resource Management (cont.)</u>					

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
From Forestry Management	Significant impacts to 700 eligible sites from cutting in Virgin, McCullough, Spring Mountains	Significant impact to 300 eligible sites from cutting in Pahrump Valley and Amargosa Flat Same as Alt. A Same as Alt. A Same as Alt. A			
From Livestock Grazing Management	Potential significant impacts to 5,200 eligible sites, 31,000 acres of Traditional Lifeway Area from livestock grazing	Potential significant impacts to 5,200 eligible sites, 31,000 acres of Traditional Lifeway Area from livestock grazing	Same as Alt. A	Potential significant impacts to 2,000 eligible sites, 31,000 acres of Traditional Lifeway Area from livestock grazing	Potential significant impacts to 4,600 eligible sites, 31,000 acres of Traditional Lifeway Area from livestock grazing
From Lands Management	Potential significant impacts to 6,300 eligible sites from availability for disposal of 3,140,585 acres	Potential significant impacts to 3,300 eligible sites from availability for disposal of 1,603,885 acres	Potential significant impacts to 2,500 eligible sites from availability for disposal of 1,224,985 acres	Minimum of 2,000 eligible sites protected by closure of planning area to leases and permits	Potential significant impacts to 3,500 eligible sites from availability to disposal of 1,517,562 acres
From Natural Area Management	Positive impacts through restrictions on some surface-disturbing activities	Positive impacts through additional ACEC withdrawals in the Virgin River area	Same	Same	Same
From Recreation Management	Potential significant impacts to 5,800 eligible sites from open OHV use on 2,900,298 acres	Potential impacts to 20 eligible sites from open OHV use on 2,900,298 acres	Same	Same	Same
From Rights-of-Way Management	Potential significant impacts to 6,500 eligible sites, 31,000 acres Traditional Lifeway Area from permits	Potential significant impacts to 1,000 eligible sites from designated corridors on 540,247 acres	Same as Alt. A	Potential significant impacts to 1,000 eligible sites from designated corridors on 505,012 acres	Potential significant impacts to 1,000 eligible sites from designated corridors on 531,148 acres
<u>Cultural Resource Management (cont.)</u>					
From Wilderness Management	Positive effects from restrictions on new access and limitations on	Same	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
From Minerals Management	other surface-disturbing activities in WSAs  Potential significant impacts to 7,500 eligible sites, 31,000 acres Traditional Lifeway Areas in planning area	Potential significant impacts to 7,500 eligible sites from locatables; to 6,000 eligible sites from saleable minerals; 7,500 eligible sites from solid leasables; and 1,500 eligible sites from fluid mineral uses	Potential significant impacts to 7,300 eligible sites from locatables; to 5,400 eligible sites from saleable minerals; 7,300 eligible sites from solid leasables; and 3,800 eligible sites from fluid mineral uses	Potential significant impact to 5,000 eligible sites from locatables; 5,400 eligible sites from saleable minerals; 5,700 eligible sites from solid leasables; and 1,500 eligible sites from fluid mineral uses	Potential significant impacts to 7,700 eligible sites from locatables; 7,700 eligible sites from saleables; 9,000 eligible sites from solid leasables; and 1,000 eligible sites from fluid mineral uses
<u>Lands Management</u>					
S-20	From Lands Management	Long-term encumbrances could occur on lands identified for disposal but also a part of the 3,140,759 acres available for Section 302 leases, permits, and airport leases; multiple use goals would be met	Long-term encumbrances could occur on lands identified for disposal but also a part of the 1,636,059 acres available for leases and permits; encumbrances lessened by limiting airport leasing to specific areas; multiple use goals would be met	Long-term encumbrances could occur on lands identified for disposal but also a part of the 1,257,159 acres available for leases, permits, and airport leasing; multiple use goals would be met	Closing the planning area to leases and permits would prevent long-term encumbrances on lands valuable for disposal; some long-term encumbrances could occur from airport leasing limited to specific areas; multiple use management goals would still be met
					Long-term encumbrances could occur on lands identified for disposal but also a part of the 1,657,514 acres available for leases, permits and airport leasing; multiple use goals would be met



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Lands Management</u> <u>(cont.)</u>					
From Rights-of-Way Management	No significant impacts	Designation of 540,247 acres of utility corridors could lessen encumbrances on lands identified for disposal; potential loss of 37,372 acres identified for disposal throughout the planning area	Designation of 540,247 acres of utility corridors could lessen encumbrances on lands identified for disposal; potential loss of 77,124 acres identified for disposal throughout the planning area	Designation of 505,012 acres of utility corridors could lessen encumbrances on lands identified for disposal; potential loss of 19,375 acres identified for disposal throughout the planning area	Designation of 531,148 acres of utility corridors could lessen encumbrances on lands identified for disposal; potential loss of 179,953 acres identified for disposal throughout the planning area
From Minerals Management	Significant administrative impacts to lands disposal program could occur from "nuisance" claims, mineral entry, and development for locatable, leasable, and saleable minerals on 163,673 acres	Withdrawal of 65,998 acres from all mineral entry and development within the Las Vegas and Laughlin areas would limit long term or permanent encumbrances which could preclude disposal or lower appraisal values	Withdrawal of 111,524 acres from all mineral entry and development within the Las Vegas and Laughlin areas would limit long-term or permanent encumbrances which could preclude disposal or lower appraisal values	Withdrawal of 61,278 acres from all mineral entry and development within the Las Vegas and Laughlin areas would limit long-term or permanent encumbrances which could preclude disposal or lower appraisal values	Withdrawal of 57,163 acres from locatable entry in the Las Vegas, Searchlight, Jean, Goodsprings and Laughlin areas would limit long-term or permanent encumbrances which could preclude disposal or lower appraisal values
<u>Natural Area Management</u>					
From Natural Area Management	All areas would receive protection and management	All areas would receive protection and management; Devil's Throat would be added and receive enhanced protection and management	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u>					
From Water Resource Management	Minor impacts to avoid water sources, including rerouting of OHV events; increased water source developments could increase visitor use by 10%	Same	Same	Same	Same
From Riparian Management	Minor impacts to avoid water sources, including OHV course rerouting; increased water developments could increase visitor use by 10%	Same	Same	Same	Same
From Fish and Wildlife Habitat Management	Cancellation of 6 motorcycle, 1 buggy competitive events in Category 1 and 2 habitats; impacts to 2,000 participants, 2,400 spectators; use would be concentrated in Jean/Roach Dry Lakes areas and Nelson Hills	Cancellation of 8 motorcycle, 1 buggy competitive events from Category 1 and 2 habitats; impacts to 4,000 participants, 6,000 spectators; use would be concentrated in Jean/Roach Dry Lakes, Eldorado, Nelson Hills, and Nellis Dunes	Cancellation of 6 motorcycle, 1 buggy competitive events in Category 1 and 2 habitats (1,346,200 acres eliminated); impacts to 2,000 participants, 2,400 spectators; use would be concentrated in Jean/Roach Dry Lakes and Nelson Hills	Cancellation of 6 motorcycle, 1 buggy competitive events in Category 1 and 2 habitats (1,356,680 acres eliminated); impacts to 2,000 participants, 2,400 spectators; use would be concentrated in Jean/Roach Dry Lakes and Nelson Hills	Same as Alt. A
	----	Approx. 10% of all visitor use would be displaced from Category 1 and 2 tortoise habitat	Approx. 6% of all visitor use would be displaced from Category 1 and 2 tortoise habitat	Same as Alt.A	Same as Alt. A
	----	----	----	Big Dune would be closed to all motorized recreational uses	----
<u>Recreation Management (cont.)</u>					

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
From Livestock Grazing Management	Access created by range improvements could impact semi-primitive, non-motorized opportunities, and cave resources	Same	Same	Same	Same
From Wild Horse and Burro Management	Enhanced opportunities to view animals would result from water developments	Enhanced opportunities to view animals would result from water developments; camping would be eliminated from Eldorado Valley SRMA	Same	Same	Same
From Lands Management	Eldorado Valley Land Transfer could displace 5,000 visitor use days to other areas	Disposal of lands in Dry Lake Valley could eliminate 1 OHV event, with loss of 400 participants, 2,000 support crew, and 10,000 spectators; land disposal near Jean would negatively impact OHV events; disposal of lands in Eldorado Valley would directly affect 50,000 visitors per year, including 6 OHV events, 2 model airplane events, 1 commercial ultralight operation, and casual use	Land disposal near Jean would negatively impact OHV use; land disposal in Eldorado Valley would directly affect 50,000 visitors per year, including 6 OHV events, 2 model airplane events, a commercial ultralight operator and casual use visitors	Same as Alt. B	Same as Alt. A



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> (cont.)					
From Recreation Management	Visitor use would increase by 10% or 144,810 visitor days throughout the planning area	Visitor use would increase by 20% or 289,620 visitor days throughout the planning area	Same as Alt. A	Same as No Action Alt.; Big Dune and Desert View would not be designated as SRMAs	Same as Alt. A
	Visitation at RRCNCA projected to increase by 200,000 visits over next 10 years	Same	Same	Same	Same
	Approx. 47% of planning area designated open for motorized use	Less than 1% of planning area designated open for motorized use	Same	Same	Same
	Approx. 51% of planning area designated as limited to existing roads and trails	Approx. 72% of planning area designated as limited to existing roads and trails	Same	Approx. 44% of planning area designated as limited to existing roads and trails	Same as Alt. A
	Less than 2% of planning area designated as limited to designated roads and trails	Approx. 27% of planning area designated as limited to designated roads and trails	Same as Alt. A	Approx. 55% of planning area designated as limited to designated roads and trails	Same as Alt. A
	----	Less than 1% of planning area designated closed	Same	Same; Big Dune also designated closed	Same as Alt. A

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management (cont.)</u>					
From Recreation Management (cont.)	Increased incidences of conflicts between recreational shooters and other users in planning area	Same	Same	Same	Same
	Greater impact on heavily used recreation sites due to lack of new facilities and overcrowding	Limited facilities would be constructed for greater control of visitor use	Same	Same	Same
From Rights-of-Way Management	Construction of new ROW projects could impact semi-primitive and non-motorized opportunities	Additional road ROWs in Sunrise Mtn. could increase visitor use by 10%; other ROWs construction could impact semi-primitive and non-motorized opportunities	Same	Same	Same
From Wilderness Management	Loss of 576,118 acres of potential motorized recreation opportunities should Congress designate as wilderness all WSAs	Loss of 507,137 acres of potential motorized recreation opportunities should Congress designate as wilderness all WSAs	Same as Alt. A	Same as Alt. A	Same as Alt. A
From Minerals Management	Geophysical exploration and road construction could impact significant cave and karst resources	Management actions to protect cave and karst resources would lessen impacts from minerals activities	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Recreation Management</u> (cont.)					
From Minerals Management (cont.)	Loss of 20% of semi-primitive non-motorized opportunities from locatable, leasable, and saleable mineral activities over 10 year period	Management actions to protect ACECs, caves, and semi-primitive areas would lessen impacts from minerals activities	Management actions to protect ACECs, caves, and semi-primitive areas would lessen impacts from minerals activities; Big Dune SRMA would be protected from minerals exploration and development	Same as Alt.B	Protection of significant caves from locatable mineral entry; loss of 20% of semi-primitive non-motorized recreation opportunities from locatable, leasable, and saleable mineral activities over 10 year period
From Acquisitions	Acquisition of 700 acres of private lands in RRCNCA would ensure continued scenic and management integrity of the area	Same	Same	Same	Same
From Fire Management	Negative impacts of wildland fire lessened by fire prevention education efforts and visitor contacts	Same	Same	Same	Same
From Special Management Areas	No significant impacts	OHV competitive events would be eliminated on 1,151,938 acres	OHV competitive events would be eliminated on 1,530,838 acres	OHV competitive events would be eliminated on 1,538,298 acres	Same as Alt. A
<u>Wild and Scenic Rivers Management</u>					
From All Programs	None	None	None	None	None



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Rights-of-Way Management</u>					
From Rights-of-Way Management	Long-term impacts could occur due to continued proliferation of randomly placed utility line and material site ROWs (mainly in Clark County)	ROW corridors could provide long-term positive social, economic, and environmental impacts by confining similar uses to a specific area; location and size of corridors could cause negative impacts to uses incompatible with the proposed use	Same as Alt. A	Same as Alt. A	Same as Alt. A
	---	ROW exclusion areas could constitute a loss of 1,151,938 acres otherwise available for material site development; ROW avoidance areas could constitute a loss of 1,938,845 acres otherwise available for all types of ROWs	ROW exclusion areas could constitute a loss of 364,000 acres otherwise available for material site development; ROW avoidance areas could constitute a loss of 2,317,745 acres otherwise available for all types of ROWs	ROW exclusion areas could constitute a loss of 1,538,298 acres otherwise available for material site development; ROW avoidance areas could constitute a loss of 2,325,205 acres otherwise available for all types of ROWs	ROW exclusion areas could constitute a loss of 4,680 acres otherwise available for linear ROW and 1,151,938 acres otherwise available for areal ROWs (including material site development); ROW avoidance areas could constitute a loss of 1,938,845 acres otherwise available for all types of ROWs

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>R i g h t s - o f - W a y</u> <u>Management (cont.)</u>					
From Rights-of-Way Management	Significant administrative impacts could occur due to continued authorization of communication site ROWs and related buildings/facilities on crowded, multi-user sites operating without a site management plan	Long-term, positive impacts could result by limiting future communication site ROWs to within existing ROWs and related buildings/facilities on any of the established sites, until approval of a site management plan for that site	Same	Same	Same
<u>Wilderness Management</u>					
From Wilderness Management	Impacts have been discussed in 3 EIS documents	Same	Same	Same	Same
<u>Minerals Management</u>					
From Air Resource Management	Maintenance and improvement of existing air quality could require that limitations be placed on surface mining activities	Same	Same	Same	Same
From Soil Resource Management	Maintenance and improvement of existing soil conditions could require that limitations be placed on surface mining activities	Same	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<b><u>Minerals Management</u></b> <b><u>(cont.)</u></b>					
From Water Resource Management	Maintenance and improvement of existing water conditions could require that limitations be placed on mineral extraction activities	Same	Same	Same	Same
From Riparian Management	No significant impacts	Approx. 2,330 acres would be withdrawn from mining claim location, solid mineral leasing, and mineral material disposal; fluid mineral leasing would be allowed subject to major restrictions	Approx. 5,350 acres would be withdrawn from mining claim location, solid mineral leasing, and mineral material disposal; fluid mineral leasing would be allowed subject to major restrictions	Same as Alt. B	Same as No Action
From Fish and Wildlife Management	No significant impacts	Approx. 634 acres would be withdrawn from mining claim location, mineral leasing, and mineral material disposal	Same as Alt. A	Approx. 11,600 acres would be withdrawn from mining claim location, mineral leasing, and mineral material disposal	Same as Alt. A
From Cultural Resource Management	No significant impacts	Approx. 31,000 acres would be withdrawn from mining claim location, mineral leasing, and mineral material disposal	Same	Same	Approx. 12,570 acres would be withdrawn from mining claim location, mineral leasing, and mineral material disposal



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Minerals Management</u> (cont.)					
From Lands Management	Disposal of 108,107 acres of public lands in Las Vegas Valley, including saleable mineral, would significantly decrease the availability of silt, sand and gravel to construction industry	Disposal of 61,838 acres of public lands within Las Vegas Valley, including saleable minerals, would decrease the availability of silt, sand and gravel to construction industry	Disposal of 99,391 acres of public lands within Las Vegas Valley, including saleable minerals, would significantly decrease the availability of silt, sand and gravel to construction industry	Disposal of 59,998 acres of public lands within Las Vegas Valley, including saleable minerals, would decrease the availability of silt, sand and gravel to construction industry	Same as Alt. B
	Existing classifications, withdrawals, and segregations affect 530,582 acres, limiting the availability of public lands for mining claim location, mineral leasing, and mineral material disposal	Same	Same	Same	Same
From Natural Area Management	No undue or unnecessary degradation would be allowed on 16,950 acres within 3 designated natural areas, pending Congressional decision for inclusion in the wilderness system	No undue or unnecessary degradation would be allowed on 16,990 acres in 3 areas designated as natural areas or natural hazard areas	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Minerals Management</u> <u>(cont.)</u>					
From Recreation Management	Approx. 3,313 acres would be designated as closed to all motorized vehicle use, restricting access for mineral-related activities	Approx. 12,190 acres would be designated as closed to all motorized vehicle use, restricting access for mineral-related activities; 279,770 acres would be withdrawn from mining claim location, solid mineral leasing, and mineral material disposal; 276,570 acres would be closed to fluid mineral leasing and 3,200 acres would be open to fluid mineral leasing, subject to no surface occupancy and similar major constraints	Same as Alt. A	Same as Alt. A	Same as No Action Alt.
From Wild and Scenic River Management	No significant impacts	Approx. 2,835 acres would be proposed for addition to national wild and scenic river system; an approved plan of operation would be required prior to the start of any mining operation on those lands	Same	Same	Same
From Rights-of-Way Management	Existing material site ROWs would affect 15,842 acres, limiting the availability of public lands for mining claim location	Same	Same	Same	Same
<u>Mineral Management</u> <u>(cont.)</u>					

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
From Wilderness Management	No undue and unnecessary degradation would be permitted within 21 WSAs (576,118 acres) pending Congressional decision; of that total, 185,169 acres have been recommended suitable for wilderness system inclusion and 390,949 acres recommended for release from further consideration	No undue and unnecessary degradation would be permitted within 22 WSAs (507,137 acres) pending Congressional decision; of that total, 111,732 acres have been recommended suitable for wilderness system inclusion and 395,405 acres recommended for release from further consideration	Same	Same	Same
From Minerals Management	---	Acreage available for fluid mineral leasing would decrease by 11%, solid mineral leasing acreage by 11%, mining claim location acreage by 12% and mineral material disposal acreage by 34%	Acreage available for fluid mineral leasing would decrease by 14%, solid mineral leasing acreage by 20%, mining claim location acreage by 25%, and mineral material disposal acreage by 43%	Acreage available for fluid mineral leasing would decrease by 40%, solid mineral leasing acreage by 40%, mining claim location acreage by 44%, and mineral material disposal acreage by 43%	Acreage available for mining claim location would decrease by 5% and mineral material disposal acreage by 11%



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Minerals Management</u> <u>(cont.)</u>					
From Special Management Areas	No impacts	ACECS would be designated, withdrawing 931,398 acres from mineral material disposal; 172,218 acres from mining claim location, solid mineral leasing, and fluid mineral leasing; 9,600 acres would be open to fluid mineral leasing, subject to major restrictions; 760,277 acres would be open to fluid mineral leasing, subject to minor restrictions	ACECs would be designated, withdrawing 1,465,138 acres from mineral material disposal; 175,938 acres from mining claim location; 544,938 acres from solid mineral leasing; 10,000 acres would be open to fluid mineral leasing, subject to major restrictions; 956,580 acres would be open to fluid mineral leasing, subject to minor restrictions	ACECs would be designated, withdrawing 1,538,298 acres from mineral material disposal and solid mineral leasing; 1,474,658 acres from mining claim location; 1,483,258 acres from fluid mineral leasing; 1,000 acres would be open to fluid mineral leasing subject to major restrictions; 54,040 acres would be open to fluid mineral leasing subject to minor restrictions	ACECs would be designated, withdrawing 139,658 acres from mineral material disposal and mining claim location
<u>Acquisitions</u>					
From Acquisitions	No impacts	Short-term administrative impacts could occur from acquisition of 12,679 acres of private lands	Short-term administrative impacts could occur from acquisition of 9,049 acres of private lands	Short-term administrative impacts could occur from acquisition of 14,669 acres of private lands	Same as Alt. B

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fire Management</u>					
From Air Resource Management	No impacts to suppression activities; prescribed burning allowed on case-by-case basis, with approved burn plan/EA	No impacts to suppression activities; prescribed burning for enhancement allowed on 205,952 acres in specified areas only; burning for fuel hazard reduction allowed on 232,109 acres, only in specified areas	Same	Same	Same
From Soil Resource Management	Impacts same as those discussed for Air Resource Management above	Same	Same	Same	Same
From Water Resource Management	Impacts same as those discussed for Air Resource Management above	Same	Same	Same	Same
From Riparian Management	Impacts same as those discussed under Air Resource Management above	Same	Same	Same	Same

Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Fire Management (cont.)</u>					
From Wilderness Management	No impacts as suppression activities conducted in accord with IMP; prescribed burning for enhancement available on case-by-case basis, under approved burn plan	Suppression activities conducted in accord with IMP; minor negative impacts to fire program as prescribed burning for enhancement allowed on 56,721 acres in specified ISAs and WSAs only; burning for fuels reduction allowed on 61,793 acres in specified ISAs and WSAs only, subject to approved programmatic plan/EA	Same	Same	Same
<u>Socio-Economic Values</u>					
From Livestock Grazing Management	Withdrawal of 5,124 AUMs as a result of Section 7 consultation; possible adverse economic impacts on 6 operators; lessor economic effects to 10 operators; net reduction of \$128,000 in capital value of ranch assets; no significant impacts to overall economy of agricultural community	Same	Same	Withdrawal of 13,477 AUMs, net reduction of \$393,757 in gross income from ranching activities; potential severe, long-term adverse economic effects on operators; no significant impact on regional economy.	Same as No Action Alternative



Table S-2 Impacts of the Alternatives (cont.)

PROGRAM	NO ACTION ALT.	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D
<u>Socio-Economic Values (cont.)</u>					
From Lands Management	Total of 163,673 acres could be disposed of through sales, adding \$1.2 billion assessed values to counties and \$23.6 million in tax revenues	Total of 155,258 acres could be disposed of through sales, adding \$1.1 billion assessed values to counties and \$22.4 million in tax revenues	Total of 540,171 acres could be disposed of through sales, adding \$2.3 billion assessed values to counties and \$45.9 million in tax revenues	Total of 98,943 acres could be disposed of through sales, adding \$923.6 million assessed values to counties and \$18.5 million in tax revenues	Same as Alt. B
From Rights-of-Way Management	Continued high costs and lengthy processing times for ROWS; facilities not limited to designated corridors, lowering construction and operating costs	Lower processing costs and times; increased construction costs as facilities limited to designated corridors	Same as Alternative A	Same as Alt. A	Same as Alt. A
From Minerals Management	Potentially significant financial impacts to surface owners during extended mineral extraction where BLM administers minerals	Reduced mineral development potential; impacts cannot be estimated due to numerous uncertainties	Same as Alt. A	Same as Alt. A	Same as Alt. A

## **CHAPTER 1**

### **PURPOSE AND NEED**







# CHAPTER 1

## PURPOSE AND NEED

### INTRODUCTION

The Stateline Resource Management Plan/Environmental Impact Statement (Stateline RMP/EIS) will provide management guidance for approximately 3.7 million acres of public land administered by the Bureau of Land Management (BLM) in the Stateline Resource Area (Maps 1-1 and 1-2, Volume II). Sections 102 and 202 of the *Federal Land Policy and Management Act* (FLPMA) of 1976 require that the Secretary of the Interior develop land use plans for all public lands.

The *National Environmental Policy Act* (NEPA) of 1969 mandates that Federal agencies will prepare an Environmental Impact Statement (EIS) for major Federal actions. Since the development of an RMP is a large-scale Federal action, an EIS has been completed in conjunction with this plan. The EIS documents the potential environmental impacts of implementing the preferred plan, as well as other alternatives. The Draft Stateline RMP/EIS conforms to the Council on Environmental Quality (CEQ) regulations for implementing NEPA requirements (40 CFR 1500-1508).

### PURPOSE AND NEED

The Stateline RMP/EIS identifies and analyzes alternatives for the long-term management of public lands and resources administered by BLM in the planning area, which is defined as the Stateline Resource Area (SRA). The RMP/EIS focuses on six management issues: land tenure; desert tortoise; mineral development; off-highway vehicle use (OHV); special management areas/Areas of Critical Environmental Concern (ACECs); and utility corridors. These issues were identified during BLM's scoping process which began on March 29, 1990 when a Notice of Intent (NOI) to prepare an RMP/EIS was published in the *Federal Register*. After issuance of the NOI, scoping reports were mailed to the public, presenting preliminary issues and announcing the times, dates, and locations of the nine public meetings. The public was asked to identify other issues to be considered in the Stateline RMP/EIS. A detailed description of the scoping process is presented in Chapter 5, Consultation and Coordination.

Two existing land use plans, the *Clark County Management Framework Plan* (MFP), completed in 1984, and the *Esmeralda-Southern Nye RMP/EIS- Planning Area B* (1986), provide current management direction for the SRA. The impetus behind the current planning effort was provided by the following: 1) a regularly scheduled 5-year evaluation of the *Clark County MFP* indicated that the plan was not adequately providing for the rapidly changing public land use demands in Clark County; 2) neither land use plan anticipated the listing of the desert tortoise as a threatened species and did not, therefore, provide for the recovery of the desert tortoise; and 3) public land disposals and exchanges, such as Aerojet and Apex, being accomplished by legislative action had generated considerable public dissatisfaction. Based on these factors, it was determined that both plans, and especially the *Clark County MFP*, needed to be amended or revised. Plan amendments normally focus on the resolution of a single issue and, depending on the significance of the anticipated impacts, may involve the preparation of an EIS. A plan revision is usually developed when multiple issues need to be resolved; an EIS is generally required. Rather than amend the *Clark County MFP* and *Esmeralda-Southern Nye RMP/EIS-Planning Area B* on a single issue basis, the decision was made to prepare the Stateline RMP/EIS, addressing the area covered by both of the existing plans. This option was projected to be a more cost-effective and efficient long-term solution to public land management problems in southern Nevada. Decisions in the *Clark County MFP* and *Esmeralda-Southern Nye RMP/EIS* determined to constitute valid management would be carried forward into this plan.



The planning area contains more than two-thirds of Nevada's population and is experiencing rapid growth, both in Las Vegas and in smaller "boom town" communities like Laughlin, Mesquite, and Pahrump. This rapid growth, in conjunction with the land ownership pattern, places considerable pressure on BLM to respond to complex land use demands for: 1) public land for community expansion and industrial uses in the Las Vegas Valley and surrounding areas; 2) lands for recreation and public purposes; and 3) resources, such as sand and gravel, in support of regional growth.

The disposal of public lands through sale, exchange, or other methods was a major issue in the development of this RMP/EIS. In recent years, the BLM has received numerous requests for public land disposal. While many of these proposed actions were in conformance with the current land use plans, some highly visible and politically sensitive proposals were not addressed in the existing plans. The proponents of these non-conforming proposals were either unable or unwilling to wait for the plan amendment process to run its normal 6 to 24 month course and sought legislative relief. Legislative disposals were successful in the case of Aerojet, Summa, Mesquite, Ft. Mojave, and most recently, Apex. A number of other legislative proposals were drafted but did not reach fruition. The result of this legislative activity was to draw attention to the inadequacies of the existing public land disposal decisions.

Over 3 million acres of desert tortoise habitat occur within the SRA. On August 4, 1989, the U.S. Fish and Wildlife Service (USFWS), under its emergency authority, placed the desert tortoise on the Endangered Species List. On April 2, 1990, USFWS issued a final rule listing the desert tortoise as a threatened species. In order to comply with the *Endangered Species Act*, the BLM must consult with the USFWS on all Federal actions (including this RMP/EIS) and take positive actions to aid in the recovery of all listed species. Tortoise habitat comprises the overwhelming majority (in excess of 80 percent) of the planning area, affecting to some degree every program administered by the BLM. In some instances, it may be necessary to radically alter the current management situation in order to accommodate the biological needs of the desert tortoise. Clark County is currently preparing a Habitat Conservation Plan (HCP) for the purpose of obtaining a "Section 10a" permit under the *Endangered Species Act* to allow the "take" of desert tortoises on private lands in the county. The HCP is proposing to mitigate the identified impacts to desert tortoise on those private lands through the establishment of "Tortoise Management Areas" (TMAs) on approximately 1,300,000 acres of public lands in the planning area. These TMAs would be managed for the benefit of the desert tortoise. Most other uses of the public lands would be strictly curtailed or eliminated. This RMP/EIS analyzes a number of different scenarios to protect and provide for the recovery of the desert tortoise, including the designation of Areas of Critical Environmental Concern (ACECs). Specific boundaries and acreage in desert tortoise ACECs may vary, depending upon provisions contained within the pending USFWS *Desert Tortoise Recovery Plan*. The total acreage within the desert tortoise ACECs will not exceed the maximum acreage analyzed in this plan.

An important component of Nevada's economy, mineral resource development is a principal use of the public lands. The extraction of sand and gravel, in particular, is critical to the continued growth and development of the Las Vegas area and other southern Nevada communities. Sand and gravel deposits occur in large quantities throughout the planning area. Many factors, including proximity to developing or residential areas, the cost of extraction and hauling, haul routes, and the proposed duration of the operation, are involved in the determination of where sand and gravel can be mined. The rapid urban growth which fuels the sand and gravel business may eventually reach the area where such extraction is occurring. Public pressure is then applied to relocate the sand and gravel operation away from the new residential area.

A management decision in the *Clark County MFP* which restricted the method of sand and gravel disposal in the Las Vegas Valley has created a major problem. Large producers of sand and gravel prefer to have independent sites which are not shared by competitors. The "community pit" concept forces these operators to share the same pit. As a result of this decision, several operators have filed mining claims for "uncommon varieties" of sand and gravel in an effort to circumvent the MFP decision. Difficulties in managing large scale operations in community pits has resulted in significant mineral trespass and an inability to identify who is



responsible for the trespass.

Other types of mineral development, including gypsum and limestone mining, gold exploration, oil and gas leasing, and sodium and potassium leasing, have the potential to impact sensitive biological and cultural resources and often result in conflicts with other land uses. The filing of mining claims on public lands identified for sale or exchange has become a common practice in southern Nevada, with many individuals making sizable incomes selling "mineral rights" to prospective surface owners. This document includes alternatives to resolve minerals-related conflicts in the planning area.

Off-highway vehicles (OHV) are commonly associated with desert areas and have traditionally been a major use of the public lands in the Southwest. In the planning area, individual casual OHV use probably accounts for the single greatest recreational use of the public lands. Competitive OHV events comprise the largest organized recreational activity administered by the SRA. More than 50 percent of the planning area is "open" to unrestricted individual OHV use, and approximately 70 percent of the planning area is available for competitive OHV events. These uses can result in significant impacts to the physical, biological, and cultural resources of the area. Such activities also often occur in areas that are believed to be essential to the continued existence of the desert tortoise in Nevada. A variety of OHV designations and competitive use areas are proposed and analyzed in the Stateline RMP/EIS.

In 1976, Congress directed BLM to assign the highest priority to the identification and designation of "Areas of Critical Environmental Concern" (ACECs). ACECs contain significant physical, cultural, or biological values which are more than locally significant and warrant special management attention to prevent their degradation or loss. There are no designated ACECs in the planning area, although a number of areas were nominated for ACEC status during the previous land use planning process. Environmental organizations and many members of the general public are aware of the congressional direction concerning ACECs. They have become increasingly vocal in their demand for more BLM-designated ACECs. The scoping process for the Stateline RMP/EIS included a request for ACEC nominations; as a result, more than 80 individual ACEC nominations were received. This RMP/EIS analyzes the impacts of designating those nominated areas that meet the "relevance and importance" criteria and warrant special management attention.

The Las Vegas area is a critical link in the complex network of interstate electrical transmission facilities and other utilities such as oil and gas pipelines and fiber-optic communication lines. Most of these facilities either provide services to the energy consuming regions of southern California, or link southern California and the Las Vegas area with the energy producing Intermountain and Rocky Mountain regions. Land use restrictions within the Lake Mead National Recreation Area, the Desert National Wildlife Range, Nellis Air Force Base, and the Sunrise Mountain Instant Study Area (wilderness study area), opposition from Las Vegas, North Las Vegas, Henderson, and Clark County, and increasing public opposition to the location of future powerlines within their communities have created a critical "window" in the northeast and east portions of the Las Vegas Valley. The future location of any facility destined for southern California will depend on access through that window. Utility corridors in the planning area include legislatively designated utility "corridors" (managed by BLM) in the Aerojet and Apex areas. The BLM has designated corridors totaling 61 miles in southern Nye County through the *Esmeralda-Southern Nye RMP/EIS*. The remainder of the planning area has no existing designated corridors. The Stateline RMP/EIS proposes a number of possible utility corridors and analyzes the impacts associated with their designation and development.

The planning process requires that an RMP be a comprehensive document which addresses all of the resources and programs administered by BLM. In addition to the seven identified issues, the Stateline RMP/EIS will also address the management of soil, air, and water resources, riparian areas, wild horses and burros, fire, cultural resources, wildlife, livestock grazing, visual resources, withdrawal review, and vegetation.



## DESCRIPTION OF THE PLANNING AREA

The planning area for the Stateline RMP/EIS corresponds to the SRA, located in southern Nevada (see Map 1-1). The SRA comprises 3,671,341 acres of public lands in Clark County and a portion of southern Nye County (see Map 1-2 and Table 1-1). The BLM is also responsible for the management of an additional one million acres of split estate lands in the planning area. A portion of this mineral estate underlies surface estate managed by other Federal agencies and is subject to the surface management policies of those agencies. The remainder of this mineral estate is on split estate lands and underlies surface estate which is in private ownership. Split estate lands are of two types: 1) those where the subsurface or mineral estate (or a portion thereof) is owned by the Federal government while the surface is under private ownership) or 2) those where the Federal government owns the surface while the subsurface minerals (or a portion thereof) are in private ownership (see Table 1-2).

This portion of southern Nevada is characterized by environmental diversity. Landforms include rugged mountain ranges, sloping bajadas, and broad valleys. The Colorado River and several of its tributaries flow through the eastern portions of the planning area. New communities and developments, like Laughlin, are mushrooming along the Colorado River, providing jobs and recreational opportunities in previously undeveloped areas. The Las Vegas Valley is also a major topographic feature, trending north-south through the heart of the resource area. This valley is the location of a burgeoning metropolitan area, consisting of the cities of Las Vegas, North Las Vegas, Henderson, and Boulder City. Much of the SRA, however, remains remote and rural, with the population dispersed over large areas or clustered in small communities. The public lands of the planning area have important scenic, recreational, mineral, archeological, wilderness, wildlife, and vegetative values. Public uses of these resources often play an important role in the growth and development of local communities.

## PLANNING PROCESS OVERVIEW

The planning process enables the BLM to address the issues and concerns of the public, while complying with the laws and policies established by Congress and the Executive Branch of the Federal Government. The preparation of the Stateline RMP/EIS involves nine basic steps and emphasizes the role of public participation at several key stages. The nine planning steps are as follows:

### Step 1: Identification of Issues

Issues drive the resource management planning process and indicate specific concerns which the BLM or the public may have regarding the planning area. An issue is defined as an opportunity, conflict, or problem pertaining to the management of public lands and associated resources. Identification of the issues orients the planning process so that the efforts of interdisciplinary analysis are directed toward resolution of the issues. Issue identification for the Stateline RMP/EIS was initiated by BLM managers and resource specialists. A Notice of Intent was published in the *Federal Register*, inviting the public and other Federal, state, and county agencies to participate in the planning process. Scoping meetings were held in Beatty, Las Vegas, Laughlin, Mesquite, Pahrump, Searchlight, and Tonopah to receive public input. The issues identified for consideration in this Draft RMP/EIS are presented below:



**Table 1-1. Surface ownership of lands in the Stateline Resource Area.**

<b>BLM Acres</b>	<b>Other Federal Acres</b>	<b>Patented* Acres</b>	<b>Planning Area Total Acres</b>
3,671,341	913,826	538,751	5,123,919
Patented Lands include private and State of Nevada Lands (Source: BLM, Las Vegas District Office files 1991.)			

**Table 1-2. Federal ownership of the mineral estate in the Stateline Resource Area.**

<b>Type of Mineral</b>	<b>Acres</b>
All Minerals	4,640,633
All Leasable Minerals	1,332
Oil and Gas	42,576
Sodium and Potassium	20,491
Sodium	2,139
Potassium	480
Geothermal	548
Coal	300
Locatable Minerals	220
Fissionable Minerals	80
Saleable Minerals	1,135
Saleable Minerals except for sand and gravel	160
<b>Total</b>	<b>4,710,094</b>
(Source: BLM, Las Vegas District Office files 1991.)	



### **Issue 1. Land Tenure**

The existing land use plans for the SRA identified public lands for disposal (transfer from Federal ownership). The identified lands have not, however, entirely satisfied the demand for large tracts of land for industrial purposes or community expansion, nor have these lands always been located in areas that meet local needs.

Which public lands in the planning area should be identified for disposal and by what method(s)?

Should the BLM acquire non-federal lands in the SRA? If so, for what purpose and where?

How can BLM's planning system best provide for large-scale land transfers involving public lands?

### **Issue 2. Desert Tortoise**

Desert tortoise habitat comprises approximately 80 percent of the planning area; a majority of the programs administered by SRA occur within that habitat. The listing of the desert tortoise as a threatened species requires management actions and changes in land uses not currently provided for by the two existing land use plans. The USFWS is currently preparing a recovery plan for the desert tortoise. The *Endangered Species Act* requires that Federal agencies use their authorities to carry out programs for the conservation of endangered and threatened species.

Should Areas of Critical Environmental Concern be designated in the SRA to assist in the recovery of the desert tortoise? If so, what measures should be taken to ensure the integrity of the ACECs?

What measures should be taken in the planning area to assist in the recovery of the species and to ensure that the goals and objectives of the *Desert Tortoise Habitat Management on the Public Lands: A Rangeland Plan* (USDI, BLM 1988) are achieved?

### **Issue 3. Mineral Development**

Mineral exploration and development, while important in the growth of southern Nevada, is often in conflict with other land uses and can adversely impact other natural and recreational values.

What areas within the SRA should be withdrawn from mineral entry and how should existing mineral operations be addressed if such withdrawals occur?

How can reliable sources of sand and gravel be made available for local communities and industry?

### **Issue 4. Off-Highway Vehicle (OHV) Use**

The existing OHV use designations are often in direct conflict with management objectives for desert tortoise habitat, air and watershed management, non-motorized recreation, and the protection of other resource values.

Should existing open, limited, and closed area designations be changed?

Should competitive OHV use be restricted to certain areas, courses, and/or times of the year? If so, when and where?



### **Issue 5. Special Management Areas/ACECs**

Public attention has increasingly been directed toward the protection of the natural, recreational, and scenic values on public lands. In order to protect these values, it is often necessary to use a special management designation, such as an ACEC, to minimize or eliminate competing or conflicting uses and to manage for a dominant use.

Should existing special management areas be retained?

Should additional special management areas be designated? If so, what special management is needed to protect the sensitive resource values?

### **Issue 6. Utility Corridors**

Utility corridors have not previously been designated in the SRA, despite a continuing high demand for such rights-of-way (ROWs).

Should utility corridors be designated only where interstate ROWs currently exist or should new areas be considered?

What is the best method for achieving maximum consistency with designated corridors in adjacent planning areas, districts, and states?

### **Concerns Not Addressed**

The Las Vegas Water District's water rights applications and the proposed Yucca Mountain Project were identified as concerns by members of the public. Both of these topics are beyond the scope of the Bureau's planning process and will not be addressed in the Stateline RMP/EIS.

The existing rangeland classification in the planning area has been challenged by several sectors of the public and other management agencies. Changes in rangeland classification are administrative actions more appropriately resolved following evaluation and public coordination. This concern will also not be addressed in the Stateline RMP/EIS.

### **Step 2: Development of Planning Criteria**

After the issues were identified, planning criteria were formulated to guide the development of the resource management plan. The criteria were derived from laws, Executive Orders, regulations, planning principles, BLM National and State office guidance, consultation with other agencies, public involvement, and resource data. These criteria helped to set the standards for data collection, to develop the alternatives to be examined, and to select the preferred alternative and final plan. Planning criteria ensure that the plan is tailored to the identified issues and that unneeded data collection and analysis are avoided. The planning criteria for the Stateline RMP/EIS are as follows:

- A. The planning area is defined as the SRA. The Stateline RMP/EIS will make planning determinations for all public lands located within the planning area boundary, including those public lands administered by other BLM offices.
- B. The Stateline RMP/EIS effort will rely on available inventories of the lands and resources in the planning area to reach sound management decisions. Those decisions requiring additional inventories will be deferred until such times as the inventories can be conducted.

- C. In accordance with BLM Manual 1620.06A, the following resource will not be analyzed nor have determinations made in the Stateline RMP/EIS:

Coal - The resource is potentially present in the planning area, but not in sufficient quantity or quality to warrant demand or interest by industry or the public. If, in the future, new technology becomes available and/or demand increases, a plan amendment will be prepared before any coal-related activities can be authorized.

- D. All valid existing management decisions from the *Clark County MFP* and the *Esmeralda-Southern Nye RMP/EIS* will be brought forward into the Stateline RMP/EIS.
- E. Decisions about specific range, wildlife, and watershed improvements will not be made in the RMP/EIS, but rather in subsequent activity-level plans (i.e. habitat management plans, allotment management plans, etc.) designed to implement the Stateline RMP/EIS decisions.
- F. Management use and protection of water, water resources, riparian zones, and other related values will be given a high priority.
- G. Geographic Information System (GIS) will not be used, except in those cases where the information is currently digitized and available.
- H. Watershed determinations will be based on hydrographic basins.
- I. The Stateline RMP/EIS will incorporate a method for amending the plan on a regularly scheduled basis.
- J. Wilderness study areas that are not designated as wilderness by Congress will be "released" from further study. The Stateline RMP/EIS will make determinations concerning the management of all wilderness study areas in the planning area on the contingency that they may be "released."
- K. Management concerns (those matters which do not qualify as issues but need to be analyzed) will be identified in the Draft RMP/EIS.
- L. Wilderness recommendations will be made for approximately 15,000 acres of public lands adjacent to the Valley of Fire State Park (which were inadvertently left out of the wilderness inventory process) and for all lands acquired since the wilderness inventory was initially completed (including the Summa lands).
- M. All public lands identified for disposal outside of areas with specific legislative authorities, such as Santini-Burton and Eldorado Valley, will be disposed of by the most appropriate method.

### Step 3: Inventory and Data Collection

Planning criteria "B" states that the plan will rely on available inventory data in order to reach sound management decisions. Time constraints for the completion of the Stateline RMP/EIS necessitate the use of existing data.



#### **Step 4: Analysis of the Management Situation**

The *Analysis of the Management Situation* (AMS) is a concise assessment of the current situation. It includes a description of current BLM management guidance, a discussion of existing problems and opportunities for solving them, and a consolidation of existing data that is needed to analyze and resolve the identified issues. Generally speaking, the AMS is incorporated in the Resource Management Plan as the Affected Environment, Continuing Management Guidance, and Alternatives.

#### **Step 5: Formulation of Alternatives**

On the basis of the issues, planning criteria, and concerns raised during scoping, four comprehensive alternatives were developed for management's consideration. The No Action Alternative is required by law and represents a continuation of present activities. The other alternatives strive to resolve the issues, while emphasizing different levels of management intensity.

#### **Step 6: Estimation of Effects of Alternatives**

In accordance with NEPA, the physical, biological, social, and economic effects of implementing each of the alternatives are estimated to permit a comparative evaluation of impacts (see Chapter 4). A general analysis of the issues and concerns for the planning area was completed; site-specific environmental assessments (EAs) will be prepared for specific projects and proposals on an activity plan or project-specific basis.

#### **Step 7: Selection of the Preferred Alternative**

Analysis of the issues, the resources affected, and the management guidance contained within the two existing land use plans resulted in the selection of the Preferred Alternative. This alternative combined elements from the other alternatives in order to achieve maximum management flexibility in lands-related actions while continuing to meet the goals and objectives of BLM's multiple-use mandate.

Using the issues and concerns identified through the planning process; information obtained from public meetings and written comments; formal coordination and consultation with other agencies; decision criteria developed and considered by management; and impact analyses of the alternatives; the Stateline Area Manager and the Las Vegas District Manager recommended a Preferred Alternative to the Nevada State Director. The State Director reviewed and approved the selection. After approval of the Preferred Alternative, the Draft RMP/EIS is distributed to the public, including other government agencies and interest groups, for a 90 day review and comment period.

#### **Step 8: Selection of the Proposed Plan**

At the end of the public review and comment period, the Las Vegas District Manager will recommend a proposed plan to the BLM State Director for approval. Based on an evaluation of public comments, the BLM may retain the preferred alternative as the proposed plan, reassess and modify the preferred alternative to meet management needs, or select a different alternative from the range of alternatives identified in the draft plan. After reviewing the recommended proposed plan, the Nevada State Director will file the Proposed RMP/Final EIS (PRMP/FEIS) with the Environmental Protection Agency (EPA) and distribute the document to the public.



The Governor of the State of Nevada will be given a 60-day consistency review, allowing the State to determine whether the PRMP/FEIS is consistent with state and local government plans and policies. This review of the PRMP/FEIS will begin when the Governor receives copies of the document.

A 30-day protest and appeal period begins when the PRMP/FEIS is filed with EPA. If no protests are received during this time, the BLM State Director will approve the plan and publish an Approved RMP/Record of Decision (ARMP/ROD). In the event that protest are received, the BLM Director will resolve those protests before the plan is approved and the ARMP/ROD published.

Implementation of the resource management plan will then take place. Prior to the initiation of resource projects and proposals, site-specific Environmental Assessments (EAs) will analyze the potential environmental impacts associated with the proposed activities. Mitigation measures will be developed and incorporated as special stipulations into authorization permits.

### **Step 9: Monitoring and Evaluation**

Monitoring and evaluation will be used to: 1) determine the effectiveness of the resource management plan in resolving the issues; 2) ensure that mitigation measures are satisfactory; 3) verify that the assumptions used in the assessment of impacts are correct; 4) ascertain whether there have been changes in related plans of other Federal agencies, state or local governments; and 5) determine whether or not implementation of the plan is achieving the desired results. Any information gained will be incorporated into future planning, including any amendments or revisions to the RMP. Monitoring and evaluation will be conducted at intervals not to exceed 5 years.

### **CONSISTENCY WITH OTHER PLANS**

There are no known inconsistencies between any of the alternatives and the officially approved and adopted resource-related policies and programs of other Federal agencies, state, and local governments. Existing land use plans which cover lands contiguous to the planning area are the *Caliente MFP*; *Esmeralda-Southern Nye RMP/EIS-Planning Area A*; *California Desert Plan*; *Shivwits MFP*; *Desert National Wildlife Range Refuge Management Plan*, *Ash Meadows Refuge Management Plan*; *Death Valley National Monument General Management Plan*; and the *Lake Mead National Recreation Area General Management Plan*.

Continuing coordination and consultation will take place during the public comment period on the Draft RMP/EIS, the PRMP/FEIS, and the ARMP/ROD. As previously noted, the Governor of Nevada will have 60 days to review the PRMP/FEIS to determine consistency with state plans.



## CHAPTER 2

### ALTERNATIVES







## CHAPTER 2

### ALTERNATIVES

#### INTRODUCTION

This chapter describes the RMP/EIS alternatives, including BLM's *Preferred Alternative* (Alternative D) and the No Action Alternative. Each alternative description begins with an overall "goal" statement, followed by a detailed description of the objectives and management direction for each BLM-managed resource and program. This chapter also identifies management direction that is common to all alternatives; this guidance will continue to occur regardless of the direction which the planning process takes and will eventually be incorporated into the Approved RMP.

#### MANAGEMENT DIRECTION COMMON TO ALL ALTERNATIVES

Decisions proposed within this plan will conform to all laws, Executive Orders, regulations, Memoranda of Understanding, Cooperative Management Agreements, Department of Interior manuals, BLM manuals, and BLM Instruction Memoranda. Copies of these mandates are on file in the Las Vegas District Office. Standard Operating Procedures attendant to the implementation of the RMP are shown in Chapter 6, *Plan Implementation, Monitoring, and Amendment*, of this document. This section describes resource management direction, including prescriptions and practices from the *Clark County Management Framework Plan* and the *Esmeralda-Southern Nye RMP*, that is applicable to all of the alternatives developed in this RMP.

#### WATER RESOURCE MANAGEMENT

Do not allow competitive Off Highway Vehicle (OHV) events within 1/4 mile of water sources.

#### VISUAL RESOURCE MANAGEMENT

If any areas are designated by Congress as wilderness, those areas will automatically be reclassified as VRM Class I areas and will be managed accordingly.

#### RIPARIAN MANAGEMENT

Do not allow competitive OHV events within 1/4 mile of riparian areas.

#### WILDERNESS MANAGEMENT

All wilderness study areas (WSAs) in the planning area will continue to be managed under the BLM *Interim Management Policy* (IMP) until Congress designates them as wilderness or releases them from wilderness consideration. Those released will be managed according to decisions in the approved RMP.

#### MINERALS MANAGEMENT

##### Saleable Minerals

Sale of mineral materials to the public will be administered on a case-by-case basis; saleable minerals are sold at fair market value. Free use permits will continue to be issued to state and Federal agencies, local communities, and nonprofit organizations, as the need arises.

## **FIRE MANAGEMENT**

### **Fire Suppression**

Fire suppression activities will be conducted according to the initial attack management levels identified in the Las Vegas District Fire Management Activity Plan and listed below. Map 2-1 shows the boundaries of the three initial attack management level areas.

- Suppress all wildfires at 500 acres or less 90 percent of the time.
- Suppress all wildfires at 100 acres or less 90 percent of the time.
- Suppress all wildfires at 10 acres or less 90 percent of the time.

### **Emergency Fire Rehabilitation**

A site-specific emergency fire rehabilitation plan will be prepared by an interdisciplinary team for each burn that requires emergency rehabilitation to protect soil, water, vegetation resources, or to prevent unacceptable on-site or off-site damages.

## **NO ACTION ALTERNATIVE**

*Note: Objectives and Management Direction followed by an asterisk, "\*", are taken verbatim from the Esmeralda-Southern Nye RMP (Planning Area B). All other Objectives and Management Direction are reproduced verbatim from the Clark County MFP.*

## **AIR RESOURCE MANAGEMENT**

### **Objective:**

Maintain or improve air quality to meet County, State, and Federal standards.\*

### **Management Direction:**

Air quality will be protected as all BLM and BLM-authorized activities must prevent air quality deterioration beyond the established standards specified in the Nevada Ambient Air Quality Standards. The *Federal Land Policy and Management Act* (FLPMA) of 1976 specifies the protection of air and atmospheric quality on BLM lands in Sec. 102(a)(8) and compliance with State and Federal laws in Sec. 202(c)(8). FLPMA also requires an active role in preventing air quality violations on BLM lands in Sec. 102(c)(8). The *Clean Air Act* has specific requirements for Federal land managers to protect the air over lands under their jurisdiction.\*

## **SOILS MANAGEMENT**

### **Objectives:**

Maintain/improve watershed conditions to reduce erosion and sedimentation and to enhance site productivity.



Protect basic soil productivity in woodland areas.

Insure that public land management actions in Clark County do not increase the potential for flood and sediment damage to private property.

Minimize the threat of flood and sediment damage in populated areas of the planning units, both on and off the national resource lands.\*

Maintain current watershed conditions where improvement is not feasible.\*

#### Management Direction:

Coordinate with local flood control agencies when considering land disposal or other actions which might affect floodplain management.

Provide right-of-way access where necessary for local flood control agencies to develop or maintain flood control developments. Cooperate with local flood control agencies on a site-specific and case-by-case basis to provide right-of-way access for flood control structures, maintenance of drainage areas, and "greenbelt" flood areas on public lands. Coordinate with Clark County Department of Comprehensive Planning during case processing and environmental assessment. Consider such disposal as the best use of the land.

In Severe and Critical Soil Surface Factor (SSF) classes, adopt protective actions to maintain or enhance watershed conditions, including making use of a coordination and consultation process, changing management of grazing animals in such a way that vegetation and plant litter ground cover is incrementally increased by 25 percent and the erosion condition is reduced to the moderate SSF class. In Severe and Critical SSF classes, and in Moderate, Slight, and Stable SSF Classes with High Erosion Hazard, minimize construction-related activities.

Develop and implement Watershed Management Plans (WMP) for the Virgin River, Muddy River, and Meadow Valley Wash watersheds.

Allow mechanical treatments for vegetation manipulation throughout Clark County. Determine areas to be treated through activity plans (HMP, AMP, etc.), and assure that the treatment serves multiple use purposes. Consider use of watershed tillage and water control facilities in activity planning for watershed improvements.

Develop and implement an evaluation and maintenance plan for watershed control structures within Clark County.

In fragile watershed areas, competitive events will be confined to existing roads, trails, courses and washes.

Construct small-scale water control facilities such as water bars or diversion dikes to protect the Amargosa River drainage.\*

Maintain natural conditions in the remainder of the planning area by excluding uses which would reduce existing ground cover, increase present erosion activity or impair present water quality and yield.\*

Soils will be managed to maintain or improve rangeland productivity as well as minimizing present and potential wind and water erosion.\*



## WATER RESOURCE MANAGEMENT

### Objectives:

Provide public land resources (e.g., desert vegetation, sand and gravel to promote water conservation landscaping) in Clark County to aid in reducing consumption and the deterioration of quality of groundwater supplies brought on through urban usage.

Maintain/improve the water quality of streams and springs, on public lands, in accordance with State and Federal regulations.

Maintain current high quality water areas and improve water quality in the area to meet County, State and Federal water quality standards.\*

### Management Direction:

Coordinate the removal of native desert vegetation (yuccas and cacti) with the Nevada Division of Forestry. Develop an advertising program whereby the developer or the BLM has the responsibility for making the public aware of upcoming sales or give-aways.

Grant leases to accommodate private and commercial uses of public lands to develop agricultural techniques for, and to conduct commercial propagation of, desert plants on a case-by-case, as-needed basis, in keeping with BLM policy.

Provide water for wildlife, wild horses and burros, and livestock use on public land throughout Clark County. Existing waters should be maintained at the source and actions taken (such as fencing) to exclude livestock and wild horses and burros from degrading the source or associated riparian areas. Where livestock or wild horses and burros now use the waters, use must be provided away from the protected areas.

Competitive ORV courses will not be allowed within 1/4 mile of water sources.

During development of all activity plans, give special attention to protecting riparian zones as wildlife habitat and to protect associated native flora. Develop limitations for surface disturbing activities on a case-by-case basis depending on the nature of the impacts.

Assess all BLM-initiated and authorized activities for non-point source pollution potential. Minimize all such potential for pollution following Best Management Practices (BMP) as identified by the State of Nevada. Monitor potentially impacted streams to determine the effects of such activities.

Establish water quality studies where necessary.\*

Continue to develop a pollution control and abatement program which provides for both environmental protection and reasonable resource uses on BLM-administered lands.\*

Wherever appropriate, institute best management practices and employ other necessary plans and permit requirements in the development of management framework plans, allotment management plans, grazing permits, etc., for the abatement and control of nonpoint source pollution from public lands.\*

Develop and institute "208" water quality monitoring and surveys on an as-needed basis and, upon request, provide Nevada Department of Environmental Protection (NDEP) with any available water quality data gathered by BLM.\*

## VEGETATION MANAGEMENT

### Objectives:

Maintain and improve the condition of the public rangelands so that the rangelands become as productive as feasible for all range resources.

Improve the condition of public rangelands to enhance the productivity for all rangeland values.\*

### Management Direction:

Continue existing rangeland monitoring studies, and establish new studies as recommended to determine if management objectives are being reached and what adjustments in livestock use, wild horse and burro numbers, and wildlife reasonable numbers are necessary.

Determine proper, long-term stocking rates of domestic livestock on allotments, desirable numbers of wild horses and burros in herd management areas, and populations of mule deer, bighorn sheep and elk in their existing and potential habitats.

Manage the perennial vegetation resource at proper utilization rate to obtain a sustained yield and to improve livestock forage condition.

Develop a programmatic plan for fire rehabilitation on public lands throughout Clark County with priority for the Spring Mountain Range and the South McCullough Range.

Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities.

Only minimal clearing of vegetation will be allowed on project sites requiring excavation.\*

All disturbed areas will be rehabilitated to replace ground cover and prevent erosion where such action is necessary and practical.\*

## RIPARIAN MANAGEMENT

### Objectives:

Maintain/improve the water quality of streams and springs, on public lands, in accordance with State and Federal regulations.

Maintain, restore or improve riparian values to achieve a healthy and productive ecological condition for maximum long-term benefits.

Maintain or improve selected riparian and stream habitat to good or better condition.\*

### Management Direction:

Ensure that 75 percent of riparian areas are in proper functioning condition by 1997, as defined in the *Riparian-Wetlands Initiative for the 90's* (USDI, BLM 1990).

During development of all activity plans, give special attention to protecting riparian zones as wildlife habitat



and to protect associated native flora. Develop limitation for surface disturbance activities on a case-by-case basis depending on the nature of the impacts.

Competitive ORV courses will not be allowed within 1/4 mile of water sources.

Identify in mineral leases issued in the floodplain of the Virgin River, that impacts to critical habitat of threatened or endangered species will be subject to mitigative measures during the plan of operations stage as, identified through Section 7 consultation.

Whenever possible, avoid surface occupancy on riparian zones.

Provide water for wildlife; wild horses and burros; and livestock use on public land throughout Clark County. Existing waters should be maintained at the source and actions taken (such as fencing) to exclude livestock and wild horses and burros from degrading the source or associated riparian areas. Where livestock and wild horses and burros now use the waters, use must be provided away from the protected areas.

Develop and implement WMPs for the Virgin River, Muddy River, and Meadow Valley Wash watersheds.

Assess all BLM-initiated and BLM-authorized activities for nonpoint source pollution potential. Minimize all such potential for pollution following Best Management Practices (BMP) as identified by the State of Nevada. Monitor potentially impacted streams to determine the effects of such activities.

Livestock grazing on all ephemeral allotments will only be allowed if on-the-ground evaluations determine that forage is available and that it can be grazed without detriment to riparian vegetation.

Spring sources will be fenced and water provided for livestock and/or wild horses and burros away from the source when a spring is developed. This will prevent overgrazing and trampling of adjacent vegetation and provide escape areas for small wildlife.

Ash Meadows Pupfish Area is closed to competitive events and other vehicles are restricted to existing roads, trails, and washes.

Evaluate and manage the Virgin River for possible designation as an Area of Critical Environmental Concern (ACEC).

Protect the riparian zone adjacent to the Virgin River from degradation.

Retain all riparian habitat adjacent to the Virgin River in public ownership.

Retain riparian areas in public ownership unless disposal would be in the public interest, as determined in the land use planning system.

Achieve riparian area improvement and maintenance objectives through the management of existing uses wherever feasible.

Ensure that new resource management plans and activity plans; and existing plans when revised, recognize the importance of riparian values, and initiate management to maintain, restore or improve them.

Prescribe management for riparian values that is based upon site specific characteristics and settings.

Give special attention to monitoring and evaluating management activities in riparian areas and revise management practices where site specific objectives are not being met.



Cooperate with and encourage the involvement of interested Federal, State and local governments and private parties to share information, implement management, coordinate activities, and provide education on the value, productivity, and management of riparian areas.

Identify, encourage, and support research and studies needed to ensure that riparian area management objectives can be properly defined and met.

Management activities in riparian zones will be designed to maintain or, where possible, improve riparian habitat condition.\*

## **VISUAL RESOURCE MANAGEMENT**

There are no designated Visual Resource Management (VRM) classes in the planning area.

## **FISH AND WILDLIFE HABITAT MANAGEMENT**

### **Objectives:**

Provide and maintain sufficient quality and quantity of food, water, cover, and space to satisfy the demands of all wildlife species using habitats on public land in Clark County. Give special emphasis to Federal and State classified species and to BLM identified sensitive species.

Return native fauna to historic ranges and/or improve population numbers in current use areas through effective habitat management in cooperation with State or other Federal wildlife agencies. Increase species diversity and distribution of desired animals throughout the variety of habitat types in Clark County with special emphasis on Federal and State classified or BLM-identified sensitive species. Assure resource use conflicts are resolved prior to reintroduction to historic ranges or population increases.

Provide special management consideration on public lands within Clark County to protect and increase current populations of desert tortoise (*Xerobates (Gopherus) agassizii*).

In desert tortoise crucial habitat, limit domestic sheep to a single pass through any use area in any one grazing season. Inspect sheep use areas annually to determine if perennial forage species are being unduly impacted. Adjust use as necessary.

Maintain and improve the conditions of the public rangelands through management of grazing animals so that the rangelands become as productive as feasible for all range resources.

Improve the condition of public rangelands to enhance the productivity of all rangeland values.\*

Initially, manage wildlife habitat for existing number of big game, while recognizing reasonable numbers as a management goal.\*

### **Management Direction:**

Develop desert tortoise Habitat Management Plans (HMPs) for the Horse Springs Wash, Virgin Mtn., Riverside, Piute Valley, Eldorado Valley, Goodsprings, Sheep Mtn., California Wash, Moapa, Red Rock, and Arrow Canyon habitat areas.

Develop bighorn sheep HMPs for the Gold Butte, Virgin Mtn., McCullough Mtn., Highland Range, Eldorado,



Bird Spring, Muddy Mtn., Dry Lake Mtn., Red Rock, Arrow Canyon, North Spring Mtn., Sunrise, Newberry, South Spring Mtn., and New York/Castle habitat areas.

Develop an HMP for the Virgin River to aid in the recovery of the woundfin minnow.

During development of activity plans, give special attention to protecting riparian zones as wildlife habitat and to protect associated native flora. Develop limitation for surface disturbance activities on a case-by-case basis depending on the nature of the impacts.

Do not develop new dual-use allotments in current or historic bighorn sheep habitat or introduce bighorn sheep into current or historic domestic sheep allotments until potential conflicts are identified and resolved through an HMP or AMP, or in a release site description.

All new water facilities, or extension of existing facilities, constructed to benefit livestock, wildlife, or wild horses and burros, will be subjected to an appropriate level of environmental review to assure new, unresolved, conflicts are not created.

Do not license grazing by domestic sheep in the McCullough Allotment. Allow cattle grazing in that allotment.

Provide water for wildlife, wild horses and burros, and livestock use on public land throughout Clark County. Existing waters should be maintained at the source and actions taken (such as fencing) to exclude livestock and wild horses and burros from degrading the source or associated riparian areas. Where livestock or wild horses and burros now use the waters, use must be provided away from the protected areas. Existing forage use by an animal should not be denied by denying water access until habitat/allotment use levels are determined after consultation and coordination and monitoring. New waters can be developed (by BLM, NDOW, or ranchers), but such developments must not create new competition for forage or habitat among wildlife, livestock, or wild horses and burros. Wildlife drinkers should be routinely provided on all projects, unless new conflicts are created thereby. Do not develop new waters which have the sole purpose of expanding the herd area which constituted wild horse and burro habitat in 1971.

On new water developments permitted by BLM, and on waters in which BLM has an interest, water should be made available to wildlife and wild horse and burros on a year-round basis as applicable.

Encourage all users of public lands to travel existing roads or trails in crucial wildlife habitats. Where possible, new road or trail construction should be avoided in crucial wildlife habitat.

Coordination with mineral or geophysical companies that plan road construction within the crucial habitat should be accomplished to mitigate the adverse impacts that would occur as a result of such construction.

In desert tortoise crucial habitat, limit domestic sheep to a single pass through any one use area in any one grazing season. Inspect sheep use areas annually to determine if perennial forage species are being unduly impacted. Adjust use as necessary.

Identify in issued mineral leases that impacts to crucial bighorn sheep and desert tortoise habitat will be subject to mitigative measures during the plan of operations stage.

Whenever possible, avoid surface disturbing activities under proposed mining plans of operations in bighorn sheep crucial summer habitat.

Identify in all mineral leases issued in the floodplain of the Virgin River, that impacts to critical habitat of threatened or endangered species will be subject to mitigative measures during the plan of operations stage



as identified through Section 7 consultation.

Identify in all mineral leases issued for desert washes that impacts to the nongame bird habitat in those washes will be subject to mitigative measures during the plan of operations stage.

Within crucial desert tortoise habitat, require mineral operators to engage qualified wildlife biologists to search for desert tortoises at operations sites prior to initiation of operations. Should tortoises be found, applicable mitigation (e.g., avoidance of tortoise burrows or habitat, or transplanting tortoises to adjacent habitat if feasible and beneficial) will be accomplished.

Determine proper, long-term, stocking rates of domestic livestock on allotments, desirable numbers of wild horses and burros in herd management areas, and populations of mule deer, bighorn sheep, and elk in their existing and potential habitats, based on data gathered through a rangeland monitoring program covering all grazing animals and after employing a coordination and consultation (C&C) process in which all affected interests may take part and which addresses multiple land use objectives. It will be the BLM's goal to provide habitat of sufficient quality and quantity so that the reasonable numbers provided by the Nevada Department of Wildlife (NDOW) can be attained. It will be the BLM's goal to insure a viable population of healthy free-roaming wild horses and burros in each herd area. This is what is meant by desirable numbers. The initial stocking rate of wild horses and burros will be current numbers of estimated actual population for Fiscal Year (FY) 83, as determined by a combination of the latest pre-FY83 aerial census data, the latest ground census data, and the BLM wild horse and burro specialist's professional judgment. This current number will be reviewed in Cooperation and Consultation (C&C). If an alternative number is recommended which is acceptable to the BLM, that number may be used as an initial stocking rate for monitoring purposes. The initial stocking rate for wildlife will be current numbers of estimated actual population as determined through NDOW census. Initially, livestock grazing will continue, based upon grazing applications received and preliminary field application determinations that support adequate forage availability prior to issuance of grazing authorizations.

In crucial desert tortoise habitat, assure adequate amounts of spring ephemeral forage are made available to desert tortoise.

Manage the perennial vegetation resource at proper utilization rate to obtain a sustained yield and to improve livestock forage condition.

Provide sufficient habitat to attain and maintain reasonable numbers of bighorn sheep.

Where possible, provide water for livestock and wild horses and burros away from riparian habitats which are currently being degraded by excessive use by these animals.

Provide grazing systems in allotments containing major desert wash systems so as to relieve overall grazing pressure on the washes.

On all allotments, maintain small game habitat conditions that would keep populations as close to wet year levels as possible.

If it is demonstrated through monitoring that livestock or wild horse and burro grazing use in a given allotment is having an adverse effect on the resources identified in the multiple land use objectives, particularly on crucial bighorn or crucial desert tortoise habitat, then livestock and wild horse and burro grazing use will be modified to the extent necessary to meet those above objectives.

Through coordination and consultation and using monitoring tools, identify habitat needs of wildlife species, particularly desert tortoise and bighorn sheep in their crucial/critical habitats, such as adequate forage,



water, cover, etc., and provide for those needs so as to, in time, attain the population goals for those species as mutually agreed to between BLM and NDOW. Consider these needs and the multiple land use objectives prior to authorizing livestock use on ephemeral range.

Accomplish bighorn sheep introductions and permit natural expansion into historic habitats only after HMPs or release site descriptions (RSD) have been developed identifying and mitigating potential conflicts. Insure adequate coordination and consultation is conducted in developing the HMP/RSD. Provide sufficient quantity and quality of habitat for reasonable numbers of bighorn sheep identified in the HMP/RSD.

Manage the public lands and support the Nevada Department of Wildlife in an effort to upgrade hunting opportunities in Clark County. Ensure public access is maintained to hunting areas and to any new areas developed for hunting. Competitive ORV events will be managed on a case-by-case basis taking into account the hunting opportunity available in the area during the specific hunting season.

Transfer maintenance of all range improvement projects to the benefiting person/corporation. Future improvements will be coordinated with other resource interests including Nevada Department of Wildlife to alleviate potential conflicts. Future water developments should be designed to include other facilities (drinkers) which will be constructed concurrently. Future fences will be built to applicable wildlife specifications in BLM Manual 1737.

Manage current wildlife habitat initially to support current numbers with a goal of achieving reasonable numbers in both current and historical habitat. Develop HMPs for the following areas in order of priority: Spring Mountains and Big Dune.\*

Continue implementation of the Ash Meadows HMP. The Ash Meadows HMP will be modified to include new data pertaining to sensitive, threatened or endangered species. In consultation/cooperation with Nye County, work toward achieving the objectives outlined in the U.S. Fish and Wildlife Service's Ash Meadows Land Protection Plan.\*

Support introduction of bighorn sheep into suitable habitat in the Bare Mountain Habitat Area.\*

Maintain existing projects in the Ash Meadows HMP Area and develop one spring source in the Spring Mountain Habitat Management Area.\*

Establish new monitoring studies as recommended by the Nevada Rangeland Monitoring Handbook. The studies will be used to determine if objectives are being reached and what adjustments, if any, in wildlife reasonable numbers may be necessary.\*

## FORESTRY MANAGEMENT

### Objectives:

Manage the existing public lands in Clark County to partially meet the demand of the Las Vegas metropolitan area for woodland and desert vegetative products on a sustained yield basis.

Protect, preserve, and regenerate the ecological niches of Douglas Fir (*Pseudotsuga menziesii*), Ponderosa Pine (*Pinus ponderosa*), Bristlecone Pine (*Pinus aristata*), and other rare or unique plant communities.

Use fire as a major management tool to accomplish vegetation manipulation to improve woodland quality on public lands in Clark County. Assure that, at a minimum, chances for a controlled fire to become a wildfire are very low.



Protect basic soil productivity in woodland areas.\*

Increase sustained-yield production of woodland products to the extent benefits exceed costs and environmental considerations permit.\*

Develop more detailed woodland data on lands where there are resource use conflicts in order that multiple-use problems may be evaluated and decisions for optimizing uses can be made.\*

Permit sustained-yield harvesting of woodland products and where economically and environmentally feasible, make efforts to increase the allowable sustained-yield cut.\*

Develop a continuing program of forest products inventory for all areas where harvesting is being permitted within the planning unit.\*

#### Management Direction:

Develop a greenwood cutting program in pinyon and juniper areas in the Virgin and McCullough Mountain Ranges. Cutting areas should be identified through activity planning and serve multiple use purposes. Wood cuts should be supervised by BLM personnel and be accomplished during the summer months when temporary help is most available. All cutting plans on the Spring Mountain Range must be coordinated with, and subordinate to, recreation plans for that area. Reseeding of a cut area will take place the autumn following the cut.

Develop a programmatic plan for fire rehabilitation on public lands throughout Clark County with priority for the Spring Mountain Range and the South McCullough Range. Conclude the contractual agreement with Nevada Division of Forestry to coincide with completion of the programmatic rehabilitation plan.

Coordinate the removal of native desert vegetation (yuccas and cacti) with the Nevada Division of Forestry. Develop an advertising program whereby the developer or the BLM has the responsibility for making the public aware of upcoming sales or give-aways.

Grant leases to accommodate private and commercial uses of public lands for the purpose of propagating desert plants on a case-by-case, as-needed basis, in keeping with BLM policy.

Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities.

Allow juniper post harvesting throughout the planning unit except in the Mt. Stirling area.\*

Allow the harvest of over-mature or dying pinyon pine or juniper trees for firewood throughout the planning unit except in the Mt. Stirling area.\*

Allow the harvest of desert plants only in areas where land use development will destroy natural vegetation, such as proposed material sites, roads, and mining areas. Restrict other harvest to quantities needed for education and scientific purposes.\*

Maintain the policy of allowing pinyon nut gathering for noncommercial purposes throughout the unit.\*

Exclude commercial sales of live vegetative materials except in those areas where vegetation manipulations have been identified. Permits may be granted for removal of vegetative products in other areas for scientific or educational purposes, as appropriate.\*



## LIVESTOCK GRAZING MANAGEMENT

### Objectives:

Manage grazing of the federal range in Clark County for a sustained yield of forage for use by domestic livestock.

Encourage and assist the range users to develop new livestock management facilities and to improve existing management facilities as an aid to maintaining or improving range condition and trend.

Maintain and improve the condition of the public rangelands so that the rangelands become as productive as feasible for all range resources.

Monitor use of range resources by all foraging animals to provide data needed to balance range use to range capacity.

Improve the condition of public rangelands to enhance the productivity for all rangeland values.\*

Initially authorize livestock use at existing levels.\*

### Management Direction:

Develop and implement the activity plans identified for the county, insuring separate plans on the same area are totally coordinated. AMPs or grazing systems will be developed for the following allotments: Wheeler Wash, Gold Butte, Bunkerville, McCullough Mountain, Hidden Valley, Ireteba Peaks, and Jean Lake allotments.

Through a coordination and consultation process, review the Crescent Peak AMP and evaluate its success in meeting its range management objectives. Revise the plan as necessary.

Transfer maintenance of all range improvement projects to the benefiting person/corporation. Future improvements will be coordinated with other resource interests including Nevada Department of Wildlife to alleviate potential conflicts. Future water developments should be designed to include other facilities (drinkers) which will be constructed concurrently. Future fences will be built to applicable wildlife specifications in BLM Manual 1737.

Encourage and assist range users in constructing fences and other projects, where needed, to improve management. Insure the preservation of normal wild horse and burro distribution and movement patterns. Construct all fences to meet wildlife standards.

Determine proper, long-term, stocking rates of domestic livestock on allotments, desirable numbers of wild horses and burros in herd management areas, and populations of mule deer, bighorn sheep, and elk in their existing and potential habitats, based on data gathered through a rangeland monitoring program covering all grazing animals and after employing a coordination and consultation (C&C) process in which all affected interests may take part and which addresses multiple land use objectives. It will be the BLM's goal to provide habitat of sufficient quality and quantity so that the reasonable numbers provided by the Nevada Department of Wildlife can be attained. It will be the BLM's goal to insure a viable population of healthy free-roaming wild horses and burros in each herd area. This is what is meant by desirable numbers. The initial stocking rate of wild horses and burros will be current numbers of estimated actual population for FY83, as determined by a combination of the latest pre-FY83 aerial census data, the latest ground census data, and the BLM wild horse and burro specialist's professional judgment. This current number will be reviewed in C&C, and if an alternative number is recommended which is acceptable to the BLM, it may be used as an



initial stocking rate for monitoring purposes. The initial stocking rate for wildlife will be current numbers of estimated actual population as determined through NDOW census. Initially livestock grazing will continue based upon grazing applications received and preliminary field applications determination that supports adequate forage availability prior to issuance of grazing authorizations.

Continue to make the public rangelands in Clark County available for livestock grazing, with the exception of that portion of the Red Rock Canyon National Conservation Area within the Spring Mountain Allotment, and Area 6666 (the River Mountains), both of which shall be closed to livestock grazing. Such grazing as is authorized will be consistent with the other multiple land use objectives identified below (see Map 2-2).

In crucial desert tortoise habitat, assure adequate amounts of spring ephemeral forage are made available to desert tortoise.

Manage the perennial vegetation resource at proper utilization rate to obtain a sustained yield and to improve livestock forage condition.

Provide sufficient habitat to attain and maintain reasonable numbers of bighorn sheep.

Where possible, provide water for livestock and wild horses and burros away from riparian habitats which are currently being degraded by excessive use by these animals.

Provide grazing systems in allotments containing major desert wash systems so as to relieve overall grazing pressure on the washes.

Manage wild burros in the Gold Butte allotment at population levels which will help stabilize the existing vegetation community and help to increase plant diversity.

On all allotments, maintain small game habitat conditions that would keep populations as close to wet year levels as possible.

Devise grazing systems and other facilities in the Bunkerville and Christmas Tree Pass allotments which would preclude common use of areas by bighorn sheep and domestic sheep.

Through Cooperation and Consultation, allotment-specific management actions (i.e. range improvements, grazing systems, wildlife projects, etc.) will be developed as needed to meet those multiple land use objectives. A specific monitoring plan, developed according to guidance contained in the Nevada Task Force's Monitoring Program, will be used to determine if those objectives are being met.

If it is demonstrated through monitoring that livestock or wild horse and burro grazing use in a given allotment is having an adverse effect on the resources identified in the multiple land use objectives above, particularly on crucial bighorn or crucial desert tortoise habitat, then livestock and wild horse and burro grazing use will be modified to the extent necessary to meet those above objectives.

Use a "selective management" approach to rangeland administration. Manage allotments in Clark County at levels of intensity identified in Table 2-1.

Through coordination and consultation and using monitoring tools, identify habitat needs of wildlife species, particularly desert tortoise and bighorn sheep in their crucial/critical habitats, such as adequate forage, water, cover, etc., and provide for those needs so as to, in time, attain the population goals for those species as mutually agreed to between BLM and NDOW. Consider these needs and the multiple land use objectives prior to authorizing livestock use on ephemeral range.



**Table 2-1. Existing allotment management categories.**

<u>Intensive</u>	<u>Maintain</u>	<u>Custodial</u>	<u>No Grazing</u>
Azure Ridge	Arrow Canyon	Acton-Farrier	Indian Springs
Billy Goat Peak	Hen Springs	Black Butte	River Mountains
Bunkerville	Lucky Strike	Dry Lake	Vegas Valley
Christmas Tree Pass	White Basin	Flat Top Mesa	Lake Mead NRA
Crescent Peak		Glendale	Rose Spring
Gold Butte		Jack Rabbit	Spring Mountains
Hidden Valley		Kyle Canyon	Sunrise Mountain
Ireteba Peaks		Lime Springs	Wheeler Slope
Jean Lake		Lower Mormon Mesa	
McCullough Mountains		Mesa Cliff	
Mesquite Community		Muddy Mountains	
Mt. Stirling		Newberry Mountains	
Upper Mormon Mesa		Overton Arm	
Wheeler Wash		Pittman Well	
		Pulsipher Wash	
		Roach Lake	
		Rox	
		South Point	
		Stump Springs	
		Table Mountain	
		Toquop Sheep	
		Ute	
		Younts Spring	

(Source: BLM, Las Vegas District files, 1991.)

Remove wild/abandoned livestock from public land.

Authorize livestock use up to active preference in the Mt. Stirling Allotment. However, it is anticipated not to exceed the 3 to 5 year average of 569 AUMs.\*

Initiate Section 7 consultation with the U.S. Fish and Wildlife Service prior to allowing ephemeral use on the Carson Slough and Grapevine-Rock Valley Allotments.\*

Livestock grazing on all ephemeral allotments would only be allowed if on-the-ground evaluations determine that forage is available and that it can be grazed without detriment to riparian vegetation.\*

Close the Ash Meadows grazing allotment to livestock grazing (see Map 2-2).\*

Intensively manage the Mt. Stirling Allotment, a Category "I" allotment. Develop an AMP for this allotment, and install two cattleguards in the Mt. Stirling seeding protective fence. Manage the three Category "C" allotments, Carson Slough, Grapevine-Rock Valley, and County Line, custodially. Give these allotments low priority for AMP development.\*

Establish new monitoring studies as recommended by the *Nevada Rangeland Monitoring Handbook*



(NRSTF 1984). The studies will be used to determine if objectives are being reached and what adjustments in livestock use, if any, are necessary.\*

Implement grazing prescriptions on those allotments which contain desert tortoise habitat. These stipulations, developed as a result of Section 7 consultation required by the *Endangered Species Act*, include the following (see Appendix K):

**Prescription 1:** In Category I, II, and "intensive" III desert tortoise habitat areas, livestock use will not occur from March 1 to June 14. Utilization between June 15 and October 14 shall not exceed 40 percent on key perennial plant species. Utilization from October 15 to February 28 will not exceed 50 percent on key perennial grasses and 45 percent on key perennial shrubs and forbs.

**Prescription 2:** Within "non-intensive" Category III desert tortoise habitat, livestock use may occur from February 15 to October 14, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs, and shrubs. Between October 15 and February 14, forage utilization will not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

**Prescription 3:** Desert tortoise habitats within the Crescent Peak allotment will be managed consistent with the approved AMP. This AMP will be sent to the U.S. Fish and Wildlife Service for Section 7 consultation. Future AMPs will require Section 7 consultation prior to implementation.

All three prescriptions will include the following key species where appropriate by density and availability: galleta grass (*Hilaria jamesii* and *rigida*); bush muhly (*Muhlenbergia porteri*); sand dropseed (*Sporobolus cryptandrus*); Indian ricegrass (*Oryzopsis hymenoides*); black grama (*Boutela eriopoda*); and desert needlegrass. Key shrub species, where appropriate by density, shall be: range ratany (*Krameria parvifolia*); ephedra (*Ephedra* spp.); white burrobrush (*Hymenoclea salsola*); and winterfat (*Eurotia lanata*).

In most cases, where allotments have significant amounts of both intensive and non-intensive management areas, the allotment will be managed according to the category of tortoise habitat affected. In allotments where the tortoise habitat is predominantly of one category, all tortoise habitat will be managed by the prescription identified for that category. For example, the White Basin allotment contains 169,000 acres of non-intensive Category III habitat and only 3,000 acres of Category II habitat. In this case, all tortoise habitat would be managed by Prescription 2 stipulations. In most cases, the grazing prescription would be applied specifically to the categories of habitat within the allotment.

## WILD HORSE AND BURRO MANAGEMENT

### Objectives:

Manage desirable numbers of wild, free-roaming horses and burros in four areas of public lands in Clark County.

Improve habitat for wild, free-roaming horses/burros in the designated Herd Management Areas.

To improve the condition of public rangelands to enhance the productivity for all rangeland values.\*



Initially, manage wild horses and burros at current numbers and maintain their habitat in areas which constituted their habitat at the time the *Wild and Free Roaming Horse and Burro Act* became law in 1971.\*

#### Management Direction:

Manage wild horses and burros in four herd management areas in Clark County: Gold Butte, Muddy Mountains, Spring Mountain Range, Eldorado Mountains (see Map 2-3). Initial management numbers will be Fiscal Year 83 population levels. Populations should be adjusted, if warranted, based on data generated through the monitoring process. Do not eliminate wild horses and burros from any HMA unless supported by monitoring data and the proposal reviewed by interested parties through a coordination and consultation process. Develop Herd Management Area Plans (HMAPs) on a schedule appropriate to funding and manpower constraints. Insure such activity plans are developed concurrently with other resource activity plans. In particular, assure that the Gold Butte HMAP is fully integrated and coordinated with the Virgin Mountain HMP. Insure that wild horse and burro habitat as well as the animals are managed in a manner designed to realize multiple land use objectives.

Manage wild burros in the Gold Butte allotment at population levels which will help stabilize the existing vegetation community and help to increase plant diversity.

Allow mechanical treatments for vegetation manipulation throughout Clark County. Determine areas to be treated through activity plans and assure that the treatment serves multiple use purposes. Chemical treatments may be used, if it is clearly demonstrated there are no undesirable side effects on habitat. Consider use of watershed tillage and water control facilities in activity planning for watershed improvements. Any treatment in the Spring Mountain Range must be coordinated with and consistent to the recreation program there.

Cooperate with the National Park Service to fence the airstrip at Echo Bay.

Provide water for wildlife, wild horses and burros, and livestock use on public land throughout Clark County. Existing waters should be maintained at the source and actions taken (such as fencing) to exclude livestock and wild horses and burros from degrading the source or associated riparian areas. Where livestock or wild horses and burros now use the waters, use must be provided away from the protected areas. Existing forage use by an animal should not be denied by denying water access until habitat/allotment use levels are determined after consultation and coordination and monitoring. New waters can be developed (by BLM, NDOW, or ranchers), but such developments must not create new competition for forage or habitat among wildlife, livestock, or wild horses and burros. Wildlife drinkers should be routinely provided on all projects, unless new conflicts are created thereby. Do not develop new waters which have the sole purpose of expanding the herd area which constituted wild horse and burro habitat in 1971.

On new water developments permitted by BLM, and on waters in which BLM has an interest, water should be made available to wildlife and wild horse and burros on a year-round basis as applicable.

Manage wild horses and burros at current numbers based on the 1982 survey which identified a level of 25 wild horses and 22 wild burros in 3 herd areas: Amargosa = 19 horses, 1 burro; Last Chance = 12 burros; and Mt. Stirling = 6 horses, 9 burros (see Map 2-3).\*

Develop and implement three herd management area plans in the following herd areas and order of priority: #1 = Mt. Stirling; #2 = Amargosa, and #3 = Last Chance.\*

Establish new rangeland monitoring studies in these herd management areas, as recommended by the *Nevada Rangeland Monitoring Handbook* (NRSTF 1984), to determine if management objectives are being reached and what adjustments in wild horse and burro numbers are necessary.\*



Wild horses and burros which stray from public lands onto privately-owned lands will be removed upon request from the landowners.\*

Wild horse gathering procedures will be designed so that captured animals are handled in a safe and humane manner, death loss of captured animals due to traumatic injury is limited to less than two percent, and roundups do not occur within six weeks before and after the peak foaling season.\*

Fences in wild horse herd management areas will be located to minimize interference with the normal distribution and movement of wild horses in accordance with Nevada BLM Manual Supplement. Selected portions of new fences constructed in these areas will be flagged or otherwise marked for one year after construction to make them more visible to horses.\*

Water for wild horses and burros will be made available in allotments used for livestock.\*

## **CULTURAL RESOURCE MANAGEMENT**

### **Objectives:**

Significant cultural resource properties on public lands in Clark County will be subject to one or more protection and/or stabilization measures. An adjunct of protection is the limitation of off-road vehicle activity in certain sensitive areas.

Preserve and protect important paleontological sites.

### **Management Direction:**

Develop Cultural Resource Management Plans for Willow Spring and the Muddy Mountains.

Develop texts for, and install, interpretive signs for the Willow Springs Archaeological loop trail. In addition, develop an interpretive trail-head brochure keyed to the various interpretive stations placed at strategic points along the trail.

Preserve a representative sample of line shacks, mining cabins, and other isolated historical structures. Document and preserve isolated graves on public land.

Provide fire protection to Searchlight Mining District, Virgin Mountain Cabin, Goodsprings Mining District, and the Crescent Peak Mining District.

Initiate regular and systematic patrols, in conjunction with other resource field work by trained District Archaeological Technicians, of specific areas and/or sites containing high cultural resource values. Site types to be patrolled on a priority basis include rock art sites, shelter cave sites, and historic sites with architectural features.

Determine sources of deterioration and priorities for preservation through field evaluations of all cultural resource sites.



## LANDS MANAGEMENT

### Objectives:

Eliminate management problems created by Federal ownership of lands needed for urban-suburban growth. While emphasizing the Valley area, provide public lands for the expansion of communities and developed areas throughout Clark County. In these areas, public lands should be disposed of as rapidly as practical by sale, R&PP, exchange, or by other appropriate authority to accommodate development needs. These disposals should be accomplished with minimal management or compliance responsibility remaining with BLM. All such disposals should be accomplished in coordination with local government.

In areas suitable for agriculture, provide public lands for agricultural use through appropriate authority. Also, provide public lands through appropriate authority in agricultural areas for residential and commercial use to avoid loss of productive farm lands.

To improve opportunities for economic development by substantially increasing the amount of non-federally owned land within the RMP area.\*

To improve the manageability of public lands by disposing of scattered isolated tracts of land and creating a blocked ownership pattern.\*

### Management Direction:

Dispose of all public lands within the Las Vegas Valley with priority to the *Santini-Burton Act* area, identified on the Las Vegas Valley Sub-Unit MFP 1 Disposal Opportunities Overlay (see Map 2-4). To provide maximum management flexibility, all disposals will be by the most appropriate authority available. Parcels needed for sand and gravel pits or adjacent to sand and gravel pits will be disposed of on a lowest priority basis, with parcels in high density developed areas disposed of first. Consider Clark County to have met the requirements for ability to maintain or restore beneficial floodplain values. All disposals will be in coordination with local government officials and agencies.

Dispose of all public parcels of land within the settled limits of the following communities on an as needed basis, with perimeters established in coordination with the appropriate government entity and accomplished by the most appropriate disposal authority (see Map 2-4). All disposals should be in coordination with local government, with the goal of complete disposal in the communities completed by 1990, unless sound management or statutory constraints preclude meeting this deadline.

- Indian Springs (approximately 382 acres)
- Goodsprings (approximately 880 acres)
- Searchlight (approximately 640 acres)
- Nelson (approximately 312 acres)
- Laughlin (approximately 1,280 acres)

Through appropriate authority, transfer out of federal ownership all isolated parcels of 640 or less coterminous acres in the following general settlement areas on an as-needed basis (see Map 2-4). Total blocking of public and private lands by the year 2000 should be a reasonable goal, but not a mandatory deadline.

- Eastern Pahrump Valley (approximately 1,000 acres)
- Sandy (Mesquite Valley) Community (approximately 1,098 acres)
- Jean (approximately 590 acres)
- Sloan and "Sloan Turn-Off" areas (approximately 2,065 acres)

Blue Diamond (approximately 326 acres)  
Moapa Valley Area (approximately 1,080 acres)  
Virgin Valley Area (approximately 1,127 acres)  
Kyle Canyon Road Small Tract area (approximately 4,500 acres)

Grant leases to accommodate private and commercial uses on a case-by-case, as-needed basis, in keeping with BLM policy. Be guided in leasing by the following conditions:

The parcel is adjacent to or in proximity to private lands, unless an overriding need is documented.

Local government approves of the lease.

No BLM resource management program would be adversely affected.

Leasing is preferable to sale because of the anticipation that the land will appropriately be returned to the pool of open public lands at a later date.

Disposal by sale is not appropriate.

Where appropriate, grant airport lease applications for airport facilities within Clark County to increase the access by and qualities of air services in rural Clark County and to augment existing airport facilities. Solicit local government and public input with the goals of:

Establish new or expanded airport facilities where such would be in the public's interest.

Avoid proliferation of airport leases within limited geographic areas or where such facilities would have no real value to the public, but would in fact serve only a private individual or firm. Approval of air facilities should be in concert with Clark County planning.

By appropriate authority, lease or dispose of lands determined suitable for agricultural production or experimentation, where significant impacts to other resources would not result. Leases or disposals in excess of 320 acres per individual require justification of the increased acreage. Lease or dispose of no lands in the Muddy or Virgin River floodplains until completion of an adequate RMP, scheduled for 1984.

In Pahrump Valley (Eastern), Sandy (Mesquite) Valley, Virgin River Valley, and the Moapa-Logandale area, provide public lands to accommodate commercial, industrial, and residential uses in agricultural communities. Each such lease/disposal would be made only on community nomination and on assurance that the community does indeed desire such agricultural land preservation steps.

Identify a pool of 47,200 acres of public land (Amargosa - 26,880, Lathrop Wells - 5,240, and Pahrump - 15,080) for disposal during the life of this plan (see Map 2-4). Disposals are discretionary and will be accomplished by sales, *Recreation and Public Purpose Act* requests, exchanges, or agricultural entry.\*

## RECREATION MANAGEMENT

### Objectives:

Manage all formally designated recreation lands and natural areas in Clark County to prevent or



minimize degradation of the resource values for which the areas were set aside (see Map 2-5). Designate additional areas found to be worthy through study or inventory by the BLM or cooperating agencies. Provide compatible recreation opportunities where desirable or feasible, and enhance management of the areas through public education and interpretation to improve recreation opportunities.

Manage public lands in Clark County to maximize outdoor recreation opportunities. Ensure that management actions are not allowed that degrade, preclude use of, or deny access to principal recreation areas.

Cooperate with and support other agencies efforts to provide increased outdoor recreation opportunities, and/or access to existing recreation areas, on their lands and on adjacent public lands, for urban residents and visitors alike.

Provide visitor safety and resource protection on all public lands in the county. Cooperate with local agencies for those services which BLM is not able to provide.

Manage the public lands in the Spring Mountain Range primarily for the recreational values there. All other resource plans and programs will be coordinated with and subordinated to the recreation program. Cooperate with private landholders and other agencies as needed.

Manage recreational off-road vehicle use on public lands in Clark County by providing a spectrum of opportunities ranging from individual, casual travel to highly organized competitive events.

Provide for off-road vehicle management areas, both for competitive and non-competitive use. Minimize conflicts and problems with other uses or interests on national resource lands.\*

Provide off-road vehicle use areas for both competitive and non-competitive use by individuals and organized groups.\*

#### Management Direction:

Protect and manage the Pine Creek Research Natural Area and the Desert View Natural Environment Area for their scenic, scientific, botanical, geologic, and educational values. Develop an information base on the Natural Areas for use in interpretive efforts and to gain a better understanding of the ecology of the areas. Develop and implement a Recreation Resource Monitoring System to provide protection through use supervision and to monitor the condition of the recreation-related natural resources present.

Remove the "outstanding natural area" designation for Sunrise Mountain and have these lands fall into the multiple-use management category with an emphasis on recreation use. Recognizing existing and future intensive recreation use, prepare, when use levels warrant, a Recreation Area Management Plan (RAMP) for the area, adjusting the boundary for the RAMP as research/needs dictate. The RAMP will be considered and coordinated with other resource activity plans on the area. The Sunrise Mountain and Frenchman Mountain areas can be disposed of under the R&PP Act for geological studies and research.

Protect and manage the Virgin Mountain Natural Area as per guidelines contained in the Code of Federal Regulations and manage Whitney Pockets for its recreation and archaeological use and potential. In essence, manage both units as a single unit, but the contiguous area between the Natural Area and Whitney Pockets is not included as part of the management unit. Develop an information base on the Natural Area and Whitney Pockets, and develop and implement a resource monitoring and visitor service



system. If use warrants, prepare an RAMP on the area. Coordinate the RAMP with other activity plans.

Develop and implement a Recreation Resource Monitoring System to provide protection through use supervision and to monitor the condition of the recreation-related natural resources present on the Piute Valley-Joshua Tree Forest, Cottonwood Cholla, Potosi Barrel Cactus, and Paradise Valley Proposed Natural Areas. Evaluate their suitability for designation as natural environmental areas (botanical sightseeing). Develop an environmental assessment as the principal analysis tool. Add appropriate protective stipulations to permits issued for the area to assure that the vegetation and the visual environment is not degraded.

Manage the 4,930 acre Virgin River Recreation Lands for their open space, wildlife, and river-access values as they relate to recreation. Develop an information base for use in interpretive efforts and to gain a better understanding of the ecology and potential uses of the area. A re-evaluation of the use should be considered during mid-life of this MFP. If a significant increase in visitor use or demand has occurred, an RAMP should be developed for the area.

Manage the Red Rock Canyon Recreation lands as set forth in the 1975 *Environmental Impact Statement*, the 1976 *Master Plan*. This plan serves in lieu of a BLM-prepared RAMP. Several major programs are focused on responding to the interests of the public, as well as to provide proper management of the 62,000 acre area. Phase in proposed sections of the *Master Plan* and the Visitors Services as funding, staffing, and public demand warrant. Treat the *Master Plan* as an ever-changing dynamic tool. (Legislation passed in 1990 created the Red Rock Canyon National Conservation Area (NCA), adding 21,100 acres (total 83,100 acres) to this area. Future management under the No-Action Alternative will also include the mandates of that legislation.)

Manage the 9,000 acre Las Vegas Dunes Off Road Vehicle (ORV) Play Area, a designated recreation lands, for its recreational ORV values. Prepare a RAMP for the Dunes in conjunction with a portion of the Dry Lake Valley ORV area.

Initiate a study program to determine if any resource values in the contiguous area need special management consideration or protection. Until the study shows otherwise, follow current management practices.

When proposed by the National Park Service, evaluate carefully the designation of the McCullough Mountains and the Frenchman Mountain-Rainbow Gardens area as National Natural landmarks in light of other actual or potential multiple uses. Give high priority to maintenance of multiple use status.

Enhance prime horseback riding areas in Clark County through a combination of facility development and reduction of conflicts with other users. Cooperate with other agencies to maximize available resources.

In Red Rock Canyon, implement the equestrian trail system identified in the master plan. Begin construction of the portion along the base of the escarpment. Coordinate efforts with the Nevada Division of State Parks.

Cooperate with Clark County in developing a trail system for the Las Vegas Wash/Rainbow Gardens/Sunrise Mountain Area. Eliminate ORV use from designated equestrian trails. Sign and mark hazardous road crossings to protect equestrians. Schedule development according to the county's plan for developing the Las Vegas Wash Wetlands Park.

Develop an equestrian trail plan in the Floyd R. Lamb State Park area with, and at the request of, the Nevada Division of State Parks.



Enhance hiking opportunities in prime Clark County areas through a combination of facility development and reduction of conflicts with other users. Cooperate with other agencies to maximize available resources.

In Red Rock Canyon, implement the hiking trail system identified in the Master Plan. Begin construction of the segments at the base of the escarpment. Coordinate efforts with the Nevada Division of State Parks.

Cooperate with the U.S. Forest Service in developing trails in the Spring Mountains which tie into Toiyabe National Forest trails. Priority segments are the Red Rock to Charleston Peak trail (which would be designed and implemented as part of the Red Rock trail system).

Manage the Gold Butte, Sunrise and Frenchman Mountains/Rainbow Gardens, Gregory's Arch/Keyhole Canyon/Knob Hill, and the Muddy Mountains for high value geological sightseeing opportunities. Utilize the expertise at UNLV in interpreting the geological significance of the areas.

Manage the Virgin Mountains, Virgin River Recreation Lands, Las Vegas Wash, Eldorado Mountains, Red Rock Canyon Recreation Lands, and the Newberry Mountains for their value as wildlife observation areas for species of interest in the Mojave Desert. Assure that access is retained over BLM or county roads, and that new roads are not created unless absolutely necessary.

Manage the southern Potosi and Bird Springs Ranges, South McCullough Mountains, and Newberry Mountains for their botanical sightseeing values. Insure that existing public roads are kept open and that entry to any of these areas is not restricted.

Manage the Goodsprings area, Eldorado Mountains, Searchlight and Newberry Mountains, Sunrise Mountains, Rainbow Gardens, Lava Butte, River Mountains, North McCullough Mountains, Crescent Peak, Dead Mountains, Muddy Mountains, Arrow Canyon, Virgin Mountains, Gold Butte area, North Muddy Mountains, and Overton Ridge significant rock and mineral collecting areas so as not to exclude access for this purpose. Make sure existing public roads are kept open, and that entry to these areas is not restricted.

Manage Table Mountain, Sloan, and Jean areas for hang gliding. Ensure public access to these is kept open.

Manage the public lands and support the Nevada Department of Wildlife in an effort to upgrade hunting opportunities in Clark County. Ensure public access is maintained to the Highland Range, Spring Mountains, Eldorado Mountains, Bird Springs Range, Searchlight area, Las Vegas Wash, Newberry Mountains, McCullough Range, Castle Mountains, Moapa Valley, Arrow Canyon Range, Gold Butte area, Muddy Mountains, the Virgin River and the Virgin Mountains, and to any new areas developed for hunting. Competitive ORV events will be managed on a case-by-case basis taking into account the hunting opportunity available in the area during the specific hunting season.

Manage the Eldorado Valley for multiple recreation values. If increased usage warrants, develop a RAMP with the potential effect of the Eldorado Valley Land Transfer Act taken into consideration.

Manage the Jean Valley/Ivanpah Valley for multiple recreation values. If increased usage warrants, develop a RAMP.

Educate the public to hazards such as flash floods, wildfire, desert survival, and open mine shafts which are associated with the public lands. Brochures, safety messages in interpretive programs, TV spots, public service announcements, and news releases should be utilized. In some cases, physical barriers



should be provided. Identify, map, and mitigate all potential hazards to ORV recreational users. Complete the task as funds and personnel are available.

Provide law enforcement in high use recreation areas, particularly the Red Rock Canyon Recreation Lands, through whatever means are available to the BLM. Consider cooperative agreements with qualified agencies, such as Las Vegas Metropolitan Police Department or Nevada Division of State Parks. If law enforcement authority is given to BLM, agency personnel should immediately be trained. Priority areas for law enforcement needs are Red Rock Canyon Recreation Lands (now NCA), Red Springs,... and then the remainder of the planning area. Develop and pursue a contract and/or cooperative agreement with the Metropolitan Police (Sheriff), Nevada Division of State Parks, Nevada Division of Forestry, and the Nevada Department of Wildlife to enforce State and local laws.

Coordinate with the Sheriff's Jeep Posse and Metro Special Operations Unit to provide search and rescue operations for climbers, hikers, and other recreationists on public lands. BLM personnel should also receive training and be able to handle many situations.

Prepare RAMPs for Kyle and Lee Canyons. Develop an overall master plan for recreational uses on the mountain range. The goal should be to maximize the recreation experience for the number of visitors the resource can tolerate. Type of use would vary from location to location but should include overnight camping, picnicking, day-use activities such as historical sightseeing, certain kinds of ORV use, hiking, and other compatible activities as deemed appropriate. Current uses, such as mining, grazing, and forest products harvesting would not be restricted, but recreation would become the major use in these mountains. Overall, developments would be at a relatively low level.

Since trailers and RVs are extremely popular, some provisions for them should be made. For the most part, roads should remain unpaved, campgrounds small, and facilities simple. Users should be expected to carry out their own trash, especially from remote areas.

Coordination with the Toiyabe National Forest, Mt. Charleston District, and public participation should be included in this planning project. Every effort will be made to make RAMP development consistent with the Mt. Charleston Comprehensive Land Use Plan policies.

Assure that access to the area exists on BLM or County roads. Easements over private roads should be considered only if no alternative exists.

Coordinate with other resources which will affect the RAMP areas (wildlife and hunting, wilderness, watershed, range, and so forth) so that multiple-use values are retained.

Develop and institute a monitoring program for the entire county which would catalog the specific effects of different ORV uses on resources present.

Define and determine suitable areas for a Motorcycle Trail Systems Park(s), ORV Play Area(s), and a Motocross Park(s).

Provide for a portion of a cross-state trail for ORVs from the Las Vegas Dunes area through Meadow Valley Wash, then north to the Pony Express Trail.

#### Off-Road Vehicle Designations:

Designate public lands in Clark County as OPEN, LIMITED, or CLOSED to ORV use (see Map 2-6). Implement the following constraints on ORV use that resulted from a coordinated resource management planning process that focused on ORV usage on public lands in Clark County.



## OPEN DESIGNATION

OPEN to individual, group and competitive use. Competitive, groups of over 50 vehicles, and commercial use requires permits and is subject to permit stipulations including a one-mile buffer from all water sources.

## LIMITED DESIGNATION

L1 - Use is LIMITED to existing roads, trails, and sand washes; cross-country travel is not allowed. This applies to all vehicle users.

L1A - No high speed competitive events.

L1B - No high speed competitive events except for street legal road rallies on the Trout Canyon to Lovell Canyon Road.

L2 - LIMITED season of use. This applies to competitive events only.

L2A - Pahrnagat/Meadow Valley Wash.

April 1 to October 31 - No racing is allowed.

November 1 to March 31

Only 2 non-pre-run, motorcycle races per calendar year.

Only 1 pre-run, dune buggy race per calendar year to take place on a designated route which will include old U.S. 93 and old Highway 17.

L2B - McCullough Pass is CLOSED to competitive events from July 1 through August 31.

L2C - Southern Spring Mountains and Bird Spring Range.

February, March, April, September, October - OPEN to all kinds of racing.

November, December, January - no pre-running.

May, June, July, August - only 3 pre-run events per season.

L3 - Use is LIMITED to designated roads only in Red Rock Canyon Recreation Lands. This applies to all vehicle users. CLOSED trails and roads will be posted. No high speed competitive events are permitted north of the Pahrump Highway.

L4 - LIMITED type of use. These limitations do not apply to individuals.

L4A - Southern Eldorado Valley/Northern Paiute Valley.

Non-Spectator Motorcycle Speed Events are limited to 200 entrants, pre-running is not allowed, and events should be scheduled to avoid opening weekends of game seasons.

Street Legal Sports Car Rallies are limited to 200 entrants and are restricted to

designated routes only.

Non-Speed Events for all types of vehicles are limited to 200 entrants, multiple lapped events are not allowed, and events should be scheduled to avoid opening weekends of game seasons.

Spectator Speed Events for 4x4s, dune buggies, and motorcycles are limited to 200 entrants and pre-running is limited to the week before the event.

L4B - Southern Paiute Valley and the Laughlin area.

Non-Spectator Motorcycle Speed Events are limited to 200 entrants, pre-running is not allowed, and events should be scheduled to avoid opening weekends of game seasons.

Street Legal Sports Car Rallies are limited to 200 entrants and are restricted to designated routes only.

Non-Speed Events for all types of vehicles are limited to 200 entrants, multiple lapped events are not allowed, and events should be scheduled to avoid opening weekends of game seasons.

Spectator Speed Events for 4x4s, dune buggies, and motorcycles are limited to 200 entrants and pre-running is limited to the week before the event.

Spectator Speed Events are limited to only one event per calendar year, and it can only be scheduled during the period between the close of quail hunting season and March 15. The event is limited to a maximum of 200 participants, is restricted to a maximum of four laps and pre-running is limited to one week prior to the event. The event must be confined to existing roads, trails and dry washes only. The start-finish, pitting and spectator areas will be designated with T. 32 S., R. 66 E., sec. 9, 14, 15 and 16 if on public land.

The Mojave Road is CLOSED to competitive events that would run along or within the road alignment; a race course may cross the road alignment, however.

L4C - Goodsprings area.

High speed competitive events are LIMITED to existing roads, trails, courses and sand washes.

- L5 - LIMITED to use which will not conflict with bighorn sheep management in the River Mountains above 2,400 feet. This applies to all vehicle use. Events requiring permits will be reviewed on a case by case basis. Individual use will continue unless a problem develops requiring a road or area closure.

- L6 - LIMITED to non-speed competitive and non-competitive use.

The Highway 93 area is CLOSED to racing except for a corridor along the future powerline road.



Arrow Canyon is CLOSED to racing from the upper sand dune to the dam.

L7 - LIMITED to non-competitive use.

L8 - Limitations to protect crucial desert tortoise habitat. The limitations apply to group or competitive use only.

L8A - In the area west of I-15 and south of the Pahrump Highway, events are limited to a maximum of 3 laps, pitting areas must be designated, and a maximum of 3 events per calendar year are allowed. Events can only be scheduled during the period from October 1 through March 31 and must be confined to existing roads, courses, trails, and sand washes.

L8B - In the area south of Jean, east of I-15, west of the South McCullough Range and north of the Nevada-California border, events are restricted to a maximum of 3 laps and pitting areas must be designated. Events can only be scheduled during the period from October 1 through March 31 and must be confined to existing roads, courses, trails and sand washes.

L8C - Southern Eldorado Valley and northern Paiute Valley area.

Non-Spectator Motorcycle Speed Events are limited to 200 entrants, pre-running is not allowed, and events should be scheduled to avoid opening weekends of game seasons. Events are restricted to a maximum of 3 laps and pitting areas must be designated. Events can only be scheduled during the period from October 1 through March 31 and must be confined to existing roads, trails, courses and sand washes.

Street Legal Sport Car Rallies are limited to 200 entrants and must be confined to designated routes only. Events can only be scheduled during the period from October 1 through March 31.

Non-Speed Events for all types of vehicles are limited to 200 entrants and multiple-lap events are not allowed. Events can only be scheduled during the period from October 1 through March 31 and should be scheduled to avoid opening weekends of game seasons.

Spectator Speed Events are limited to 200 entrants and pre-running is limited to the week before the event. Events are restricted to a maximum of 3 laps and pitting areas must be designated. Events can only be scheduled during the period from October 1 through March 31 and must be confined to existing roads, courses, trails and sand washes.

L8D - Southern Piute Valley.

Non-Spectator Motorcycle Speed Events are limited to 200 entrants, pre-running is not allowed, and events should be scheduled to avoid opening weekends of game seasons. Events are restricted to a maximum of 3 laps and pitting areas must be designated. Events can only be scheduled during the period from October 1 through March 31, and a maximum of 3 events per calendar year are allowed. Events must be confined to existing roads, trails, courses and sand washes.

Street Legal Sport Car Rallies are limited to 200 entrants and must be confined to designated routes only. Events can only be scheduled during the period from October 1 through March 31.

Non-Speed Events for all types of vehicles are limited to 200 entrants and multiple-lap events are not allowed. Events can only be scheduled during the period from October 1 through March 31 and should be scheduled to avoid opening weekends of game seasons.

Spectator Speed Events are not allowed.

L8E - In areas adjacent to the south and east sides of the Moapa Indian Reservation, competitive events are restricted to existing courses only and pitting areas must be designated. Events are restricted to a maximum of 4 laps.

L8F - In the Pahrnagat/Meadow Valley Wash area, events are restricted to two (2) non-pre-run motorcycle races per calendar year confined to existing roads, trails and sand washes, and one (1) pre-run dune buggy race per calendar year to take place on a designated route which will include old U.S. 93. Events can only be scheduled during the period from November 1 through March 31, are limited to a maximum of 3 laps, and pitting areas must be designated.

#### CLOSED DESIGNATION

CLOSED to all vehicle use both individual and groups. This closure applies to 3,308 acres in Hidden Valley in the south Muddy Mountains.

#### WILDERNESS STUDY AREA (WSA) ORV USE

The ORV designations for areas including WSAs apply unless the designations are less restrictive than the *Interim Management Policy and Guidelines for Lands Under Wilderness Review* (IMP). Individual ORV use is LIMITED to existing roads and trails by the IMP. Competitive and group events will not be allowed after January 23, 1988 to ensure that the recommendation of the Secretary of the Interior, with respect to the area's suitability or non-suitability for preservation as wilderness is not constrained. Any WSAs that are designated as wilderness by Congress will be CLOSED to vehicle use.

Designate all public lands in Planning Area B of Nye County as OPEN for off-road vehicle recreation with the following exceptions (see Map 2-6):\*

Five (5) acres in the Big Dune area is CLOSED to all ORV use.\*

Non-competitive use in the Ash Meadows Pupfish Area (13,000 acres) is LIMITED to existing roads, trails, and washes.\*

Competitive use in fragile watershed areas (123,948 acres) is LIMITED to existing roads, trails, courses, and washes.\*

The Ash Meadows Pupfish Area (13,000 acres) and the 126 acres in the Big Dune area are CLOSED to competitive events.\*



## **WILD AND SCENIC RIVERS MANAGEMENT**

There are no decisions regarding the potential eligibility of the Virgin River or any other river for inclusion in the Wild and Scenic River system or the potential classification of any rivers as wild, scenic, or recreational rivers.

## **RIGHTS-OF-WAY MANAGEMENT**

### **Objectives:**

Provide public lands in Clark County for transportation, energy transmission, communications, and related facilities and systems through appropriate authority.

To ensure a system for transmission of utilities through the planning area by establishing corridors which will meet the long-range planning needs for utility companies and avoid sensitive resource values.\*

### **Management Direction:**

Do not establish utility system corridors until the completion of a Transportation and Utility Corridor Study.

Promote expansion and multi-user growth of existing communication sites where technical considerations allow. Designate and grant applications for use of new sites only upon justification that existing sites are unfeasible technically or economically. New sites should, of course, be developed as required and authorized pursuant to appropriate authority. Unless road access exists to a proposed new site, access will be by helicopter only.

Maintain access to existing withdrawals, leases, rights-of-way, private lands, etc.

Designate 61 miles of utility corridors in southern Nye County which include existing facilities and/or rights-of-way (see Map 2-7). No private land would be included in these corridors. Designated corridors will be 3 miles wide, except where topographic constraints exist. Designation of corridors does not mean that future rights-of-way are restricted to corridors, nor is it a commitment by the Bureau to approve all right-of-way applications within corridors. Corridors will provide for a variety of right-of-way uses, including powerlines, pipelines, railroads, and highways.\*

## **WILDERNESS MANAGEMENT**

### **Objective:**

Protect wilderness study areas (WSAs) within Clark County to maintain potential suitability into the National Wilderness Preservation System, until such time that Congress designates them as wilderness or releases them from further wilderness consideration (see Map 2-8).

To preliminarily recommend wilderness designation for those WSAs where the values of wilderness designation are capable of balancing the other resource values and uses which would be foregone due to wilderness designation (see Map 2-8).\*

To preliminarily recommend wilderness designation only for those WSAs that can be effectively managed as wilderness over the long term (see Map 2-8 and Table 2-2).\*

Management Direction:

Manage all WSAs within the guidelines of the *Interim Management Policy for Lands Under Wilderness Review* so that wilderness characteristics of these lands remain until such time as the areas are included into the National Wilderness Preservation System or are released from further consideration by Congress.

**MINERALS MANAGEMENT**

Objectives:

Manage public lands in Clark County so as to facilitate exploration and development of leasable, locatable, and salable minerals.

To make available for use, and encourage the development of, mineral and energy resources to meet national, regional, and local needs, consistent with declared national objectives for an adequate supply of minerals at reasonable market prices.\*

Management Direction:

Establish and maintain not less than four community sand gravel pits in the Las Vegas Valley and its immediate vicinity for sand and gravel sales to the public, one in each quadrant. Pits should be located outside the boundaries of PL 95-586. Award no new sand and gravel leases or sales contracts, either competitive or non-competitive, and renew no existing leases or contracts upon their expiration. Evaluate the area annually to determine if residential development encroachment warrants relocation of community pit sites, free-use permit sites, and material site rights-of-way. The *Proposed Plan Amendment* and *Final Environmental Impact Statement* for the *Clark County Management Framework Plan*, entitled *Sand and Gravel Leasing in the Las Vegas Valley Subunit*, would authorize renewal of the only two leases in the subunit, presently held by Bonanza Minerals, Inc.

Establish community sand and gravel pits near each rural community in Clark County which does not currently have one.

Assure that mineral exploration, development, and extraction are carried out in such a way as to minimize environmental and other resource damage to provide, where legally possible, for the rehabilitation of lands affected by such operations.\*

Develop and upgrade detailed mineral resource data in areas of resource use conflict, so that total multiple-use problems can be evaluated and decisions or optimum use can be made.\*

Encourage mineral development needed to contribute to the stability and growth of the community and the State in general.\*

Encourage the exploration for and development of energy minerals and resources such as oil and gas and geothermal steam and water in order to achieve the national goal of energy self-sufficiency.\*

Assure that mineral leasing operations--exploration, development, and extraction--are carried out with minimum environmental and other damage by placing appropriate stipulations (conditions) in permits.



**Table 2-2. Wilderness Study Areas.**

<b>Wilderness Study Area (WSA)</b>	<b>Acres</b>
Arrow Canyon Range WSA (NV-050-215)	
Recommended suitable acres	0
Recommended non-suitable acres	32,853
Muddy Mountains WSA (NV-050-229)	
Recommended suitable acres	36,850
Recommended non-suitable acres	59,320
Mt. Stirling WSA (NV-050-401)	
Recommended suitable acres	50,600
Recommended non-suitable acres	19,050
La Madre Mountains WSA (NV-050-412)	
Recommended suitable acres	42,005
Recommended non-suitable acres	19,625
Pine Creek WSA (NV-050-414)	
Recommended suitable acres	22,261
Recommended non-suitable acres	2,357
North McCullough Range WSA (NV-050-425)	
Recommended suitable acres	0
Recommended non-suitable acres	47,166
South McCullough Range WSA (NV-050-435)	
Recommended suitable acres	19,558
Recommended non-suitable acres	37,065
Resting Springs WSA (NV-050-460)*	
Recommended suitable acres	0
Recommended non-suitable acres	3,850
Fish and Wildlife #1 WSA (NV-050-201)	
Recommended suitable acres	0
Recommended non-suitable acres	11,090
Fish and Wildlife #2 WSA (NV-050-216)	
Recommended suitable acres	0
Recommended non-suitable acres	17,242
Fish and Wildlife #3 WSA (NV-050-217)	
Recommended suitable acres	0
Recommended non-suitable acres	22,002



Table 2-2. (continued)

Wilderness Study Area (WSA)	Acres
Lime Canyon WSA (NV-050-231)	
Recommended suitable acres	13,895
Recommended non-suitable acres	20,785
Million Hills WSA (NV-050-233)	
Recommended suitable acres	0
Recommended non-suitable acres	21,296
Garrett Buttes WSA (NV-050-235)	
Recommended suitable acres	0
Recommended non-suitable acres	11,835
Jumbo Springs WSA (NV-050-236)	
Recommended suitable acres	0
Recommended non-suitable acres	3,466
Quail Springs WSA (NV-050-411)	
Recommended suitable acres	0
Recommended non-suitable acres	12,145
El Dorado WSA (NV-050-423)	
Recommended suitable acres	0
Recommended non-suitable acres	12,290
Ireteba Peaks WSA (NV-050-438)	
Recommended suitable acres	0
Recommended non-suitable acres	14,994
Nellis WSA (NV-050-4R-15 A,B,C)	
Recommended suitable acres	0
Recommended non-suitable acres	5,718
Sunrise Mountain ISA (NV-050-0420)	
Recommended suitable acres	0
Recommended non-suitable acres	10,240
Virgin Mountain ISA (NV-050-0222)	
Recommended suitable acres	0
Recommended non-suitable acres	6,560

(Source: BLM, Las Vegas District files 1991).



Provide for the rehabilitation of lands affected by such operations to minimize environmental degradation.

Develop detailed mineral resource data for areas where resource uses conflict so that multiple-use problems can be resolved in favor of the best use of the land.\*

Facilitate exploration for diatomite, clay, talc minerals, and fluorite.\*

Facilitate geothermal energy and oil and gas exploration and development.\*

#### Fluid Minerals

Continue to manage the Federally owned mineral estate in Clark County as OPEN to mineral leases (see Map 2-9). Leasable mineral activities will be authorized pursuant to 43 CFR Groups 3100, 3200, and 3500, under, but not limited to, the following guidelines:

Identify in issued mineral leases that impacts to crucial bighorn sheep and desert tortoise habitat will be subject to mitigative measures during the plan of operations stage.

Whenever possible, avoid surface disturbing activities under proposed plans of operations in bighorn sheep crucial summer habitat.

Roads created by mineral activities will be referred to the Area Manager for disposition prior to the end of the mineral activity.

Identify in mineral leases issued in the floodplain of the Virgin River, that impacts to critical habitat of threatened or endangered species will be subject to mitigative measures during the plan of operations stage as identified through Section 7 consultation.

Whenever possible, avoid surface occupancy on or within one-quarter mile of developed or designated recreational facilities.

Identify in issued mineral leases, that in areas with "severe" or "critical" soil surface factors (SSF) and in areas with "moderate" and "slight" SSF and "high" erosion hazards, operations will be subject to special mitigative measures to offset impacts identified at the plan of operations stage.

Whenever possible, avoid surface occupancy on riparian zones.

Within crucial desert tortoise habitat, require mineral operators to engage qualified wildlife biologist to search for desert tortoises at operation sites prior to initiation of operations. Should tortoises be found, applicable mitigation (e.g., avoidance of tortoise burrows or habitat, or transplanting tortoises to adjacent habitat if feasible and beneficial) will be accomplished.

Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities.

*Wilderness Interim Management Policy and Wilderness Management Policy Guidelines.*

All public lands in Planning Area B of Nye County are OPEN to geothermal and oil and gas leasing with no special stipulations except in bighorn sheep habitat areas, where lease applications will be processed on a case-by-case basis to evaluate if there is a need for special stipulations (see Map 2-9).\*

## Locatable Minerals

Continue to manage the Federally owned mineral estate in Clark County and Southern Nye County as OPEN to mineral location (see Map 2-9). Locatable mineral activities will be authorized pursuant to 43 CFR Group 3800, under, but not limited to, the following guidelines:

Identify in issued mineral leases that impacts to crucial bighorn sheep and desert tortoise habitat will be subject to mitigative measures during the plan of operations stage.

Whenever possible, avoid surface disturbing activities under proposed mining plans of operations in bighorn sheep crucial summer habitat.

Roads created by mineral activities will be referred to the Area Manager for disposition prior to the end of the mineral activity.

Identify in mineral leases issued in the floodplain of the Virgin River, that impacts to critical habitat of threatened or endangered species will be subject to mitigative measures during the plan of operations stage as identified through "Section 7" consultation.

Whenever possible, avoid surface occupancy on or within one-quarter mile of developed or designated recreational facilities.

Identify in issued mineral leases, that in areas with "severe" or "critical" soil surface factors (SSF) and in areas with "moderate" and "slight" SSF and "high" erosion hazards, operations will be subject to special mitigative measures to offset impacts identified at the plan of operations stage.

Whenever possible, avoid surface occupancy on riparian zones.

Within crucial desert tortoise habitat, require mineral operators to engage a qualified wildlife biologist(s) to search for desert tortoises at operation sites prior to initiation of operations. Should tortoises be found, applicable mitigation (e.g., avoidance of tortoise burrows or habitat, or transplanting tortoises to adjacent habitat if feasible and beneficial) will be accomplished.

Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities.

*Wilderness Interim Management Policy and Wilderness Management Policy Guidelines.*

All public lands in Planning Area B of Nye County are OPEN to mineral entry and development, except as noted below (see Map 2-9):\*

Ash Meadows PLO 5387 (withdrawal) - 136.84 acres\*

Devil's Hole N-257B (C&MU) - 1,919.77 acres\*

Jack Rabbit Spring N-3319 (C&MU) - 60 acres\*

Warm Springs Pupfish N-27612 (pending withdrawal) - 1,419.04 acres\*

Ash Meadows N-29915 (pending withdrawal) - 435.93 acres\*



## Mineral Materials

Continue to manage the Federally owned mineral estate in Clark County and Southern Nye County as OPEN to mineral sales, and leases (see Map 2-9). Saleable mineral activities will be authorized pursuant to 43 CFR Group 3600, under, but not limited to, the following guidelines:

Identify in issued mineral leases that impacts to crucial bighorn sheep and desert tortoise habitat will be subject to mitigative measures during the plan of operations stage.

Whenever possible, avoid surface disturbing activities under proposed mining plans of operations in bighorn sheep crucial summer habitat.

Roads created by mineral activities will be referred to the Area Manager for disposition prior to the end of the mineral activity.

Identify in mineral leases issued in the floodplain of the Virgin River, that impacts to critical habitat of threatened or endangered species will be subject to mitigative measures during the plan of operations stage as identified through "Section 7" consultation.

Whenever possible, avoid surface occupancy on or within one-quarter mile of developed or designated recreational facilities.

Identify in issued mineral leases, that in areas with "severe" or "critical" soil surface factors (SSF) and in areas with "moderate" and "slight" SSF and "high" erosion hazards, operations will be subject to special mitigative measures to offset impacts identified at the plan of operations stage.

Whenever possible, avoid surface occupancy on riparian zones.

Within crucial desert tortoise habitat, require mineral operators to engage qualified wildlife biologist to search for desert tortoises at operation sites prior to initiation of operations. Should tortoises be found, applicable mitigation (e.g., avoidance of tortoise burrows or habitat, or transplanting tortoises to adjacent habitat if feasible and beneficial) will be accomplished.

Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities.

*Wilderness Interim Policy and Wilderness Management Policy Guidelines.*

The following Clark County Management Framework Plan (MFP) decision is currently being amended:

"Award no new sand and gravel leases, either competitive or non-competitive, and renew no existing leases upon their expiration within the Las Vegas Valley Sub-Unit."

The Clark County MFP amendment process has not yet been completed, therefore, management direction concerning leasing of sand and gravel for the area covered by leases Nev-057863 and N-35779 cannot be completed without potentially prejudicing existing rights. In addition, litigation is currently pending with respect to this MFP amendment. Until the MFP amendment is completed, definitive management strategies and alternatives cannot be adequately developed or analyzed in the Stateline RMP planning effort. Therefore, the management direction concerning sand and gravel leasing for these two tracts of land will be those resulting from the final Approved Clark County MFP Sand and Gravel Amendment and Record of Decision.

The management direction concerning leasing of sand and gravel outside the area of the MFP amendment (Las Vegas Valley Sub-Unit) will be consistent with the Clark County Sand and Gravel Amendment and Record of Decision.

#### Non-energy Leasable Minerals

Continue to manage the Federally owned mineral estate in Clark County and Southern Nye Counties as OPEN to mineral leases (see Map 2-9). Leasable mineral activities will be authorized pursuant to 43 CFR Group 3500, under, but not limited to, the following guidelines:

Identify in issued mineral leases that impacts to crucial bighorn sheep and desert tortoise habitat will be subject to mitigative measures during the plan of operations stage.

Whenever possible, avoid surface disturbing activities under proposed plans of operations in bighorn sheep crucial summer habitat.

Roads created by mineral activities will be referred to the Area Manager for disposition prior to the end of the mineral activity.

Identify in mineral leases issued in the floodplain of the Virgin River, that impacts to critical habitat of threatened or endangered species will be subject to mitigative measures during the plan of operations stage as identified through "Section 7" consultation.

Whenever possible, avoid surface occupancy on or within one-quarter mile of developed or designated recreational facilities.

Identify in issued mineral leases, that in areas with "severe" or "critical" soil surface factors (SSF) and in areas with "moderate" and "slight" SSF and "high" erosion hazards, operations will be subject to special mitigative measures to offset impacts identified at the plan of operations stage.

Whenever possible, avoid surface occupancy on riparian zones.

Within crucial desert tortoise habitat, require mineral operators to engage qualified wildlife biologist to search for desert tortoises at operation sites prior to initiation of operations. Should tortoises be found, applicable mitigation (e.g., avoidance of tortoise burrows or habitat, or transplanting tortoises to adjacent habitat if feasible and beneficial) will be accomplished.

Avoid surface occupancy on relic stands of Douglas fir, ponderosa pine, bristlecone pine, and other relic plant communities.

*Wilderness Interim Policy and Wilderness Management Policy Guidelines.*

#### **ACQUISITIONS MANAGEMENT**

There are no decisions regarding the potential acquisition of land or easements by the BLM except for those non-federal lands identified in the *Red Rock Canyon Recreation Lands Master Plan* (USDI, BLM 1976).



## FIRE MANAGEMENT

### Objectives:

Prevent degradation of natural resources and destruction of structural improvements, both on public lands and on private lands adjacent to public lands, by suppressing wildfires on public lands.

Use fire as a management tool to enhance conditions of renewable resources or meet management objectives for a site.

### Management Direction:

Continue fire prevention and presuppression program. Place prevention signs on all major access roads. Consider the following elements:

Develop fire prevention display for the Red Rock Visitor Center. Work cooperatively with the Red Rock Visitor Center interpretive staff to develop a display and a slide-tape presentation concerning fire prevention.

Establish a fire prevention contact reference guide involving newspapers, radio stations, television stations, exhibitions, fairs, and other media outlets, for the purposes of promoting fire prevention and the fire program.

Develop a Fire Detection Plan for Clark County that includes aerial reconnaissance flight patterns, a directory of cooperative fire detection agencies, a directory of available reconnaissance aircraft, and a procedural guide to the implementation of the detection forces.

Provide fire protection to the following historical properties, either in conjunction with the areas listed above, if they are located there, or otherwise as last priority: Searchlight Mining District, Virgin Mountain Cabin, Goodsprings Mining District, and the Crescent Peak Mining District.

Use of fire suppression equipment and techniques to their maximum design capabilities will be modified as necessary to assure no greater damage occurs to resource values from the suppression effort than could occur from the fire. On all fires in the priority areas, a resource advisor will be requested and assigned.

Improve legal access into areas of high fire occurrence and/or high resource values. Arrange for easements where needed or access across private property. Maintain key BLM roads by annual grading with the following priority: Wheeler Pass Road, Lovell Canyon Road, and Highway 88 (Old Pahump Highway).

Update all fire-related cooperative agreements on an annual basis.

Work closely with the Clark County Coordinator of the Office of Volunteer Fire Departments, to achieve cooperation in training, prevention, detection, initial attack, use of facilities, and exchange of fire equipment.

Develop a county-wide program to utilize prescribed burning and modified suppression of wildfires as a vegetation manipulation tool. Vegetation manipulation areas must be identified through activity plans and must serve multiple-use objectives. Allow 2 years for the sale of firewood and other products on the burn site before conducting any burning. Greenwood cutting should precede all prescribe burns. Prescription for a burn/modified suppression site should be developed within one year after site

identification. Sites with relatively rare tree species such as ponderosa pine, Douglas fir, and bristlecone pine, may be selected for prescribed burning to remove undergrowth and aid regeneration, but extreme care must be taken to avoid damage or destruction of the key tree species. Modified suppression plans should be closely coordinated county-wide with adjacent landowners and firefighting agencies. No modified suppression of wildland fires will be used in the Spring Mountain Range. Prescribed burning in the Spring Mountain Range must be closely coordinated with, and subordinated to, recreation plans.

Develop and implement a public education program explaining the purposes, ecological benefits, and economics of fire as a resource management tool.

Develop a prescribed fire workshop program to include the most recent concepts and developments in the area of fire management and prescribed fire techniques, for all District personnel. This program should precede development of proposed prescribed burn areas.

### **SPECIAL MANAGEMENT AREAS**

There are no designated Areas of Critical Environmental Concern (ACECs) in the planning area; other types of designated special management areas can be found in the Recreation sections.



## **ALTERNATIVE A**

**GOAL -** To provide for a full spectrum of public land uses in the traditional sense of multiple-use and sustained-yield; consumptive and non-consumptive uses would be balanced.

### **AIR RESOURCE MANAGEMENT**

#### **Objectives:**

Reduce particulates originating from BLM-administered lands within the Las Vegas Valley Non-Attainment Area to a level consistent with Federal, State, and local air quality standards and regulations.

Ensure that Federal, State, and local air quality standards are not violated by actions occurring on BLM-administered lands.

#### **Management Direction:**

Ensure that air quality considerations are addressed during the planning process by incorporating objectives and actions into resource activity plans, including Allotment Management Plans (AMP), Habitat Management Plans (HMP), and Watershed Management Plans (WMP).

Ensure that activities on BLM-administered lands are consistent with Federal, State, and local air quality standards and regulations.

See **RECREATION MANAGEMENT** for management direction relating to air resource protection and Off-Highway Vehicle uses.

See **MINERALS MANAGEMENT** and **Appendix A** for management direction relating to air resource protection and minerals activities.

### **SOILS MANAGEMENT**

#### **Objectives:**

Reduce erosion and sedimentation while enhancing site productivity through the maintenance and improvement of watershed conditions.

Maintain those watersheds with a stable to slight erosion condition and low to moderate erosion susceptibility (see Table 2-3).

Improve those watersheds with a critical erosion condition and those in a stable to moderate erosion condition with a high erosion susceptibility.



**Table 2-3. Erosion condition and susceptibility management objectives.**

<u>Condition Class</u>	<u>Susceptibility Class</u>	<u>Action</u> <u>Maintain</u>	<u>Improve</u>
Critical	High		X
Critical	Medium		X
Critical	Low		X
Moderate	High		X
Moderate	Medium	X	
Moderate	Low	X	
Slight	High		X
Slight	Medium	X	
Slight	Low	X	
Stable	High		X
Stable	Medium	X	
Stable	Low	X	

(Source: BLM, Las Vegas District Office files 1991).

**Management Direction:**

Complete an Order III Soil Survey by 1995 to assist in better defining watershed conditions.

Identify the potential response to treatment of watersheds in the planning area.

Prepare Watershed Management Plans (WMP) where other resource activity plans (AMPs, HMPs, etc.) cannot adequately address watershed concerns. Give priority to those watersheds within the Colorado River drainage system with a critical erosion condition or a stable to moderate erosion condition and high erosion susceptibility but good recovery potential.

See **WATER RESOURCE MANAGEMENT** for additional management direction relating to soils protection.

See **RIPARIAN RESOURCE MANAGEMENT** for additional management direction relating to soils protection.

See **FISH AND WILDLIFE HABITAT MANAGEMENT** for additional management direction relating to soils protection.

See **LIVESTOCK GRAZING MANAGEMENT** for management direction relating to soils protection and livestock grazing.

See **RECREATION MANAGEMENT** for management direction relating to soils protection and Off-Highway Vehicle uses.



See **MINERALS MANAGEMENT** and **Appendix A** for management direction relating to soils protection and minerals activities.

See **FIRE MANAGEMENT** for management direction relating to soils protection and fire management activities.

See **SPECIAL MANAGEMENT AREAS** for additional management direction relating to soils protection in these areas.

## **WATER RESOURCE MANAGEMENT**

### **Objectives:**

Maintain the quality of those waters presently in compliance with State and/or Federal water quality standards. Improve the quality of those waters found to be in noncompliance.

Maintain or reduce salt yields emanating from public lands to meet State-adopted and EPA approved water quality standards for the Colorado River.

Ensure the availability of adequate water to meet multiple use objectives including the recovery and/or re-establishment of Special Status Species.

### **Management Direction:**

Minimize contributions of both point and nonpoint sources of pollution (including salts) following Best Management Practices (BMP) as identified by the State of Nevada.

Determine water needs to meet management objectives. File for appropriative water rights on public and acquired lands in accordance with the State of Nevada water laws for those water sources that are not federally reserved.

Determine instream flow requirements and apply for necessary water rights on the Virgin River and Meadow Valley Wash.

See **SOILS MANAGEMENT** for management direction relating to Order III Soil Survey and the preparation of Watershed Management Plans.

See **RIPARIAN MANAGEMENT** for management direction relating to water quality protection.

See **FISH AND WILDLIFE HABITAT MANAGEMENT** for management direction relating to water resource protection.

See **LIVESTOCK GRAZING MANAGEMENT** for management direction relating to water quality protection and livestock grazing.

See **RECREATION MANAGEMENT** for management direction relating to water quality protection and Off-Highway Vehicle uses.

See **MINERALS MANAGEMENT** and **Appendix A** for management direction relating to water quality protection and minerals activities.

See **SPECIAL MANAGEMENT AREAS** for management direction relating to water quality protection in these areas.

## **VEGETATION MANAGEMENT**

### **Objectives:**

Maintain or improve the condition of the vegetation on 3,671,127 acres of public lands to a desired plant community or to Potential Natural Community (PNC)) within 20 years.

Maintain or improve the habitat of threatened, endangered or candidate plant species found on public lands.

Maintain or restore plant productivity on disturbed areas of the public lands

### **Management Direction:**

Determine the ecologic status of the plant communities on all lands in Federal ownership within the planning area and manage these public lands to achieve desired plant community or PNC within 20 years.

Rehabilitate, reclaim or revegetate areas subjected to surface disturbing activities.

Manage for optimum species diversity when rehabilitating disturbed areas, unless the area originally supported only a vegetation monoculture.

Allow construction, mining activity or OHV activity on sites known to be habitat for threatened, endangered or candidate plant species only after appropriate mitigation measures have been developed.

## **RIPARIAN MANAGEMENT**

### **Objectives:**

Ensure that 75 percent of riparian areas are in proper functioning condition by 1997, as defined in the *Riparian-Wetlands Initiative for the 90's* (USDI, BLM 1990).

Improve the condition of the riparian area associated with the Virgin River from its current condition of poor to fair to a good or better rating.

Improve the condition of the riparian zones of those springs which exhibit good recovery potential from the current poor and fair ratings to a good or better rating.

### **Management Direction:**

Modify grazing systems or use protective fences, as needed, to prevent further degradation of and aid in the recovery of the Virgin River riparian areas determined to have good recovery potential.

Use protective fencing, as needed, and provide alternative water sources and/or locations to prevent further degradation of and aid in the recovery of spring-associated riparian areas.

Complete at least 15 spring-associated riparian projects annually.



See **SOILS MANAGEMENT** for management direction relating to riparian resource protection.

See **WATER RESOURCE MANAGEMENT** for management direction relating to riparian resource protection.

See **VEGETATION MANAGEMENT** for management direction relating to riparian resource protection.

See **FISH AND WILDLIFE HABITAT MANAGEMENT** for management direction relating to riparian resource protection.

See **LIVESTOCK GRAZING MANAGEMENT** for management direction relating to riparian resource protection and livestock grazing.

See **LANDS MANAGEMENT** for management direction relating to riparian resource protection and lands actions.

See **RECREATION MANAGEMENT** for management direction relating to riparian resource protection and Off-Highway Vehicle uses.

See **MINERALS MANAGEMENT** and **Appendix A** for management direction relating to riparian resource protection and minerals activities.

See **FIRE MANAGEMENT** for management direction relating to riparian resource protection and fire management activities.

See **ACQUISITIONS MANAGEMENT** for management direction relating to riparian resource protection and lands acquisitions.

See **SPECIAL MANAGEMENT AREAS** for management direction relating to riparian resource protection in these areas.

## **VISUAL RESOURCE MANAGEMENT**

### **Objectives:**

Retain the existing character of the landscape on 1,125,415 acres of public lands.

Partially retain the existing character of the landscape on 2,404,454 acres of public lands.

Provide for management activities which require major modification of the existing character of the landscape on 678,055 acres of public lands.

### **Management Direction:**

Designate 1,125,415 acres of public lands as VRM Class II and manage for the retention of the existing character of the landscape (see Map 2-10).

Designate 1,867,657 acres of public lands as VRM Class III for the partial retention of the existing character of the landscape (see Map 2-10).

Designate 678,055 acres of public lands as VRM Class IV to allow management activities which require major modification of the existing character of the landscape (see Map 2-10).

Do not designate any VRM Class I areas in the SRA.

## FISH AND WILDLIFE HABITAT MANAGEMENT

### BIGHORN SHEEP

#### Objectives:

Maintain or improve approximately 869,800 acres of current and potential habitat toward full ecological potential or desired plant community and maximum species diversity (see Map 3-8). Through management and habitat enhancement projects, allow desert bighorn sheep populations to reach levels consistent with the carrying capacity of their habitat. Using monitoring data, adjustments will be made in the potential population estimates, derived from the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988) to meet the carrying capacity of the habitat (see Table 2-4).

#### Management Direction:

Maintain and improve bighorn sheep habitat through the maintenance of existing water developments, the construction of additional water developments, and the protection/improvement of springs, seeps and riparian habitat in the following HMP areas. Where applicable, any water, spring, or seep improvements would be subject to *Interim Management Policy*, wilderness legislation, and the wilderness management plan. Limit competition between bighorn, livestock, wild horses, and burros around spring sources by providing separate water sources for wildlife. Activities will not be limited to the following areas if new knowledge or data indicates the need for improvements in other areas.

Arrow Canyon/Elbow Range  
South Spring/Bird Spring Range/Devil Peak  
Gold Butte/Virgin Mountains  
Highland Range  
Muddy Mountains  
Eldorado/Newberry Mountains  
Spring Range  
McCullough Range  
New York/Castle Peak  
Specters/Last Chance/Bare Mountains

Develop, approve, and implement HMPs for the following habitat areas. Allow artificial water development in these habitat management areas.

Arrow Canyon/Elbow Range  
South Spring Range/Bird Spring Range/Devil Peak  
Gold Butte/Virgin Mountains  
Highland Range (revise existing HMP)  
Spring Range (Red Rock/La Madre)  
McCullough Range  
Eldorado/Newberry Mountains  
Specters/Last Chance/Bare Mountains  
Muddy Mountains



**Table 2-4. Bighorn sheep Habitat Management Areas.**

<u>Habitat Management Area</u>	<u>Potential population</u>
Arrow Canyon Range	396
South Spring Range/Bird Spring Range	708
McCullough Mountains	734
Highland Range	134
El Dorado Mountains	742
Muddy Mountains	505
Newberry Mountains	169
River Mountains	207
Virgin Mountains	484
New York/Castle Peak	140
Gold Buttes	671
Last Chance Range	129-157
Specter Range	116-142
Bare Mountains	86-105

(Source: *Rangewide Plan for Managing Bighorn Sheep on Public Lands* USDI, BLM 1988).

Evaluate discretionary activities proposed in bighorn sheep habitat on a case-by-case basis. Grant authorization if the proposed actions are consistent with the goals and objectives of the *Rangewide Plan for Managing Desert Bighorn Sheep Habitat on Public Lands* (USDI, BLM 1988).

Remove all wild horses and burros which have expanded beyond existing herd management area boundaries into bighorn sheep habitat.

Do not expand current livestock and wild horse and burro use areas into bighorn sheep habitat.

Do not construct new waters for livestock and wild horses and burros in bighorn sheep habitat if such waters will result in expanding livestock and wild horse and burro use areas into bighorn sheep habitat.

Do not authorize domestic sheep grazing in allotments which contain bighorn sheep habitat.

Prevent undue and unnecessary degradation of bighorn sheep habitat due to mineral related exploration and development by implementation of the following stipulations:

Allow no surface occupancy stipulations for exploration and development of fluid minerals between May 1 and September 30 within 2 miles of existing or future bighorn waters.

Allow no new road construction or siting of ancillary facilities in lambing habitat.

Require mineral operators to mitigate impacts to bighorn sheep.

Monitor bighorn sheep habitat on a 1 to 3 year cycle, depending upon use levels. If average utilization on key forage species exceeds 40 percent, utilization will be read annually and frequency trend studies will be established and read on a 5 year cycle. Select areas where bighorn sheep, livestock, and wild



horse or burro use overlaps and areas used exclusively by bighorn sheep for monitoring studies. Monitoring will be conducted to determine accomplishment of goals established in the RMP, HMPs and the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988).

Designate the River Mountains as an ACEC to provide additional protection to the habitat of a herd of bighorn sheep managed to provide transplant stock for augmentation and reintroduction of desert bighorn sheep populations throughout the Southwestern U.S (see Map 2-20).

## DESERT TORTOISE

### Objectives:

Maintain or improve habitat conditions on approximately 970,160 acres of Category I, II and III desert tortoise habitat (within proposed ACECs) to support current population levels of desert tortoises.

In all other desert tortoise habitat, maintain existing habitat conditions to maintain desert tortoise populations at existing trend levels.

Continue management of the Desert Tortoise Conservation Center as a major desert tortoise research facility and expand the function of the Center to include an environmental education/awareness program in close coordination with other Federal agencies and State and local governments.

### Management Direction:

Designate approximately 970,160 acres as tortoise ACECs (see Table 2-5 and Map 2-20).

Minimize impacts to tortoise habitat during fire suppression by minimizing the use of mechanized equipment.

Allow reintroduction of wildlife species in tortoise ACECs only if such actions will not create conflicts with tortoise populations.

Where tortoise predator problems are suspected, inventory predator populations (including the common raven).

Study predator food habits and behaviors to determine if predator control would help in maintaining viable tortoise populations. Control predator populations where necessary to be consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

Evaluate all BLM-authorized actions to determine if they encourage the proliferation or range expansion of tortoise predator populations. Seek alternative actions or mitigative measures which will minimize the increase or spread of predator populations.

Allow new water developments for wildlife, livestock, and wild horses and burros in tortoise ACECs only if such developments will not create conflicts with desert tortoise. If conflicts are created, mitigate such conflicts to make the net effects positive or neutral to desert tortoise.

Monitor tortoise populations, tortoise habitats, activity plans, pertinent decisions in land use plans and compliance with relevant stipulations in records of decision to determine the effectiveness of the mitigation.

Monitor population study plots every 2 to 5 years.



**Table 2-5. Proposed tortoise ACECs.**

ACEC	CATEGORY I	CATEGORY II	CATEGORY III	OTHER	TOTAL
Piute Valley*	148,000	41,900	0	0	189,900
Ivanpah Valley*	0	147,700	0	160	147,860
Pahrump*	0	116,600	0	0	116,600
Coyote Springs/ Mormon Mesa*	141,000	88,500	69,000	800	299,300
Virgin**	77,000	68,000	0	71,500	216,500
<b>Totals</b>	<b>366,000</b>	<b>462,700</b>	<b>69,000</b>	<b>72,460</b>	<b>970,160</b>

\*Clark County only  
 \*\*Virgin ACEC also includes the Virgin Mountains, the Virgin River and cultural sites.

Develop a monitoring program specifically for land use activities that adversely affect tortoise habitats. Use data from the monitoring program to analyze the cumulative impacts of land use decisions on tortoise habitats.

Incorporate the objectives and management actions of the *Desert Tortoise Recovery Plan*, when completed, into all appropriate activity plans.

Withdraw approximately 634 acres on and adjacent to the Desert Tortoise Conservation Center from all public land laws and close the same to fluid mineral leasing, locatable minerals, non-energy leasables and mineral materials.

Within funding constraints, develop additional facilities where appropriate to further enhance the function of the Center as an environmental education/awareness and research facility.

## SPECIAL STATUS SPECIES

### Objectives:

Maintain or improve 37,078 acres of spring, wet meadow, and desert habitats to full ecological potential to protect the integrity of the Ash Meadows ecosystem and habitats of 26 special status species.

Maintain approximately 1,000 acres of sand dune habitat on Big Dune in a natural condition to support four candidate invertebrate species three of which are endemic to the dunes.

Maintain or improve approximately 200 acres of aquatic and riparian habitat on the Virgin River from its existing poor to fair condition to good or better condition.

Maintain or improve approximately 58,000 acres of potential peregrine falcon habitat in the Spring and Virgin mountains to provide suitable nesting sites.



Maintain spring flows and ground water levels in the Moapa Valley and Ash Meadows area to protect spring and aquatic habitat for special status species in the Moapa National Wildlife Refuge and Ash Meadows National Wildlife Refuge and ACEC.

Management Direction:

To the extent possible under BLM policy and Federal laws, comply with recovery plans for special status species, including but not limited to the *Peregrine Falcon Recovery Plan, West Coast Region* (USDI, USFWS 1982); *Moapa Dace Recovery Plan* (USDI, USFWS 1983); *Woundfin Recovery Plan* (USDI, USFWS 1984c); *Ash Meadows Protection Plan* (USDI, USFWS 1984a); *Desert Tortoise Recovery Plan* (pending); and other plans as they are developed.

Make 9,243 acres of BLM inholdings within Ash Meadows National Wildlife Refuge available for withdrawal by the USFWS for inclusion in the refuge.

Designate Ash Meadows Essential Habitat (37,078 acres), Big Dune (1,000 acres), Virgin River Floodplains (2,835 acres), and the Amargosa Mesquite area (9,600 acres) as ACECs (see Map 2-20).

Prohibit BLM-authorized land uses which would result in unmitigable, significant adverse impacts to ground water levels or spring flows in the Moapa Valley and Ash Meadows National Wildlife Refuge/ACEC.

Inventory habitat in the planning unit for the presence of peregrine falcons. Identify nesting, hunting and wintering habitat. Sites which are unoccupied but suitable for occupancy or expansion by the peregrine should be identified. Potential habitat includes but is not limited to the Spring and Virgin Mountains. Activities will not be limited to the following areas if new knowledge or data indicates the need for management in other areas.

Prevent unnecessary and undue degradation of potential peregrine falcon habitat in the Spring Mountains and the Virgin Mountains through the implementation of the following actions or stipulations.

Upon discovery of nesting peregrines or introduction of peregrines into BLM-managed lands, develop habitat management plans for peregrine habitat.

The area within a one-half mile radius of active nests will be closed to human activity, to the extent possible, between Feb. 1 and Sept. 1 (or until nestlings fledge and nest is abandoned).

Prohibit the use of detrimental environmental pollutants which could accumulate in the peregrine and its food source for BLM-authorized activities in the Spring and Virgin Mountains.

Initiate a monitoring effort, in cooperation with NDOW and other interested parties, to determine numbers of nesting falcons and population trend over a period of several years.

Develop a cooperative agreement with the USFWS, the Peregrine Fund, NDOW and other concerned agencies or private organizations to explore the possibility of reintroducing peregrine falcons into suitable habitat in the Spring and Virgin Mountains.



## OTHER WILDLIFE SPECIES

### Objectives:

Maintain or improve crucial quail habitat (within 1.5 miles of water) to late seral stage, full ecological potential, or desired plant community. Maximize plant species diversity and perennial forage production to provide forage and cover for Gambel's quail.

Maintain or improve BLM lands toward desired plant community and maximum species diversity to provide a wide variety of habitats for all wildlife species.

Maintain or improve approximately 287,500 acres of mule deer habitat to mid-to late seral stage or desired plant community to support mule deer populations consistent with the carrying capacity of the habitat. Table 2-6 shows anticipated minimum population levels. Use monitoring data to make necessary adjustments in population levels.

### Management Direction:

Maintain the existing upland game guzzlers. Allow construction of additional upland game guzzlers, as needed.

Obtain water rights to springs, where unappropriated, and manage as natural riparian systems.

Eliminate tamarisk from springs and seeps where the potential for elimination is good. Revegetate the area with native plants to help reduce the potential for recolonization of tamarisk. Monitor these areas on an annual basis to ensure that tamarisk does not recolonize the area.

Adopt a prescription burn plan for fires in mule deer habitat to maximize the natural role of fire in the ecosystem.

South McCullough Mountains  
Newberry Mountains  
Virgin Mountains

Identify and protect crucial deer habitat and fawning areas.

Manage mesquite in the following areas for their value as wildlife habitat and as an unusual vegetation type in the Stateline Resource Area: Amargosa Mesquite area, Meadow Valley Wash, and Stump Springs.

Develop a habitat management plan for Amargosa mesquite area and Meadow Valley Wash.

Emphasize protection and improvement of riparian habitat for its value as wildlife habitat. Manage for increased species diversity in forage and cover plants.

Identify key nesting areas, migration routes, important prey base areas, and concentration areas for birds of prey on public lands. Implement management programs on key habitats with significant raptor populations.

Incorporate raptor management objectives and actions in all habitat management plans which include significant or key raptor habitat.



**Table 2-6. Mule deer populations.**

<u>Mountain Range</u>	<u>Number</u>
Spring Mountains	350-400
South McCullough Range	60-120
Newberry Range	30-60
Virgin Mountains	50-100
Gold Butte	36-72

(Source: NDOW survey data).

Assist NDOW in a raptor monitoring program and maintain an inventory of raptor habitats and populations.

Designate 9,600 acres as the Amargosa Mesquite ACEC.

Inventory and monitor phainopepla populations at Amargosa Mesquite Area, Stump Springs, Meadow Valley Wash and other areas determined to be important to phainopepla.

See **RIPARIAN MANGEMENT** for management direction relating to fish and wildlife habitat resources.

See **LIVESTOCK GRAZING MANAGEMENT** for management direction relating to fish and wildlife habitat resources.

See **WILD HORSE AND BURRO MANAGEMENT** for management direction relating to fish and wildlife habitat resources.

See **LANDS MANAGEMENT** for management direction relating to fish and wildlife habitat resources.

See **RIGHTS-OF-WAY MANAGEMENT** for management direction relating to fish and wildlife habitat resources.

See **MINERALS MANAGEMENT** for management direction relating to fish and wildlife habitat resources.

## **FORESTRY MANAGEMENT**

### **Objectives:**

Provide approximately 1200 acres of mesquite woodland (400 acres in T. 18S, R. 51E; 800 acres in T. 21S, R. 52E and 53E) for firewood gathering, subject to the development of a woodlands management plan and stipulations designed to protect sensitive resources in these areas.

Maintain approximately 138,400 acres of pinyon-juniper woodland and conifer forest at late seral stage or full ecological potential.



Provide for salvage sale/harvest of desert vegetation (100 to 1000 plants per year) from areas of public lands which will sustain surface-disturbing activities.

**Management Areas:**

Public lands within T. 18S, R. 51E and T. 21S, R. 52E and 53E are available for mesquite firewood harvesting, subject to the development of a woodlands management plan and stipulations designed to protect sensitive resources in those areas.

All public lands in SRA would be open for salvage harvest of desert vegetation at those locations where surface-disturbing activities will occur.

**Management Direction:**

Allow the harvest of dead and/or down wood or BLM-marked green mesquite "trees" for dwarf mistletoe control only in the areas identified above. The remainder of the planning area will not be managed for the harvest of any types of forest products.

Limit firewood gathering to one cord per household per calendar year.

Make desert vegetation, which would otherwise be destroyed by surface-disturbing activities, available for salvage/harvest by the public.

**LIVESTOCK GRAZING MANAGEMENT**

**Objectives:**

Maintain or improve the condition of the vegetation on 2,595,247 acres of public lands available for livestock grazing to a desired plant community or to Potential Natural Community within 20 years.

Provide for increased plant vigor and reproductive capability of perennial forage on the public rangelands through livestock grazing management.

Maintain static trend or achieve upward trend of key perennial forage species through livestock grazing management.

Provide for the continued grazing of domestic livestock on the public lands.

Develop range improvements, as identified by allotment evaluations, needed to reach more uniform distribution of livestock in order to attain Objectives 1, 2 and 3.

Resolve resource conflicts, as needed, to improve forage production/utilization on the public lands so that the allotments now classified as "I" can be reclassified as "M".

**Management Areas:**

**Closed To Livestock Grazing:**

The following areas and allotments will be closed to all livestock grazing (see Map 2-11 for locations and boundaries). These areas are located in urban areas; on lands withdrawn for use by another Federal

agency; do not produce adequate amounts of livestock forage; are unmanageable as grazing allotments or have been voluntarily relinquished by the owner of the base property.

Sunrise Mountain, Indian Springs, River Mountains, and Las Vegas Valley Allotments (117,400 acres).

Amargosa Valley/Crater Flat (all unallotted areas within southern Nye County) (581,700 acres).

Ash Meadows, Carson Slough, and Grapevine-Rocky Valley Allotments (21,000 acres).

Spring Mountains and Younts Spring Allotments (252,290 acres).

Lake Mead National Recreation Area Allotment (10,400 acres).

Wheeler Slope Allotment (72,277 acres).

Virgin River Bottom Allotment (90 acres).

Muddy River Allotment (17,888 acres).

Acreage along Meadow Valley Wash and the Virgin River, including the riparian area and flood plain which totals approximately 2,835 acres, and excluding the area withdrawn by the Bureau of Reclamation, encompassing lower Meadow Valley Wash.

#### Open to Livestock Grazing:

The remaining 2,036,933 acres of public lands in the planning area are available for livestock grazing to the extent that this use is consistent with the attainment of multiple use objective and the constraints of desert tortoise recovery requirements.

Four allotments, containing 558,314 acres, will remain open, conditional upon protection of desert tortoise habitat and concurrence of the base property owner.

#### Management Direction:

##### Initial Stocking Level

The allotments in the planning area, with the exception of the Mt. Stirling Allotment, will continue to be classified as ephemeral (see Map 2-11); the Mt. Stirling Allotment will remain ephemeral-perennial. The number of livestock to be licensed during any particular period will be based upon the availability of total annual forage consistent with the season of use and utilization level restrictions identified in the grazing prescriptions. When an application for grazing use is submitted, a determination of total annual forage production will be made. Grazing use will be authorized according to the grazing prescription developed for each allotment.

##### Kind of livestock

The kind of livestock that will be authorized on each allotment is identified in Table 2-7.

##### Season of Use

The season of use on all allotments is subject to the desert tortoise restrictions "Constraints on Livestock Grazing" section.



**Table 2-7. Kind of livestock - Alternative A.**

<u>Horses</u>	<u>Horses &amp; Cattle</u>	<u>Cattle</u>
Stump Spring	Bunkerville	Acton-Farrier
	Flat Top Mesa	Arrow Canyon
	Lower Mormon Mesa	Azure Ridge
	Mesa Cliff	Billy Goat Peak
	Upper Mormon Mesa	Black Butte
		Christmas Tree Pass
		County Line
		Crescent Peak
		Dry Lake
		Glendale
		Gold Butte
		Hen Springs
		Hidden Valley
		Ireteba Peaks
		Jack Rabbit
		Kyle Canyon
		Lime Spring
		Lucky Strike
		McCullough Mountains
		Mesquite Community
		Mt. Stirling
		Muddy Mountains
		Muddy River
		Newberry Mountains
		Overton Arm
		Pittman Well
		Pulsipher Wash
		Roach Lake
		Rox
		South Point
		Table Mountain
		Ute
		Virgin River Bottom
		Wheeler Wash
		White Basin

#### Grazing Management Actions

Utilization of key forage species will be as specified in the "Constraints on Livestock Grazing" section. Limit grazing use of key forage species to a maximum of 50 percent of the current year's growth. All allotments classified as "I" and "M" are scheduled for development of allotment management plans (AMPs) or grazing systems. AMPs may be minimal in nature, detailing management as a result of Section 7 consultation, grazing schedules, season(s) of use, and the development of range improvements. Until AMPs



are developed, water location/availability is being used to control livestock use in many of the allotments. Controlling season of use by livestock is the most effective method of protecting the vegetative resource by allowing forage species to improve in vigor and begin reproductive functions. Range improvements, including but not limited to fences, corrals, cattleguards, pipelines, wells, spring developments, troughs and earthen reservoirs, will be needed in many allotments to facilitate management of livestock. The need, number and type of range improvement will be established as allotment management plans are developed.

Use fire management (controlled burning) and/or mechanical treatment of undesirable vegetation to improve/increase forage production on the public range, where practicable and feasible. Rehabilitate areas where vegetation has been destroyed by fire, flood or other disturbances.

#### Constraints on Livestock Grazing

Livestock grazing on allotments which contain desert tortoise habitat will be constrained by stipulations developed as a result of Section 7 consultation required by the *Endangered Species Act*. Stipulations will be developed as needed for each individual allotment. Intensive monitoring and frequent evaluations will be conducted to determine the need for change in management, if any. The following grazing prescriptions will be implemented to meet the habitat needs of the desert tortoise, as those needs are influenced by livestock grazing, consistent with the BLM's *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

**Prescription 1:** In Category I, II, and "intensive" III desert tortoise habitat areas, livestock use will not occur from March 1 to June 14. Utilization between June 15 and October 14 shall not exceed 40 percent on key perennial plant species. Utilization from October 15 to February 28 will not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

**Prescription 2:** Within "non-intensive" Category III desert tortoise habitat, livestock use may occur from February 15 to October 14, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs and shrubs. Between October 15 and February 14, forage utilization will not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

**Prescription 3:** Desert tortoise habitats within the Crescent Peak allotment will be managed consistent with the approved AMP. This AMP will be sent to the U.S. Fish and Wildlife Service for Section 7 consultation. Future AMPs will require Section 7 consultation prior to implementation.

All three prescriptions will include the following key species where appropriate by density and availability: galleta grass (*Hilaria jamesii* and *rigida*); bush muhly (*Muhlenbergia porteri*); sand dropseed (*Sporobolus cryptandrus*); Indian ricegrass (*Oryzopsis hymenoides*); black grama (*Bouteloua eriopoda*); and desert needlegrass (*Stipa speciosa*). Key shrubs species, where appropriate by density, shall be: range ratany (*Krameria parvifolia*); ephedra (*Ephedra* spp.); white burrobrush (*Hymenoclea salsola*); and winterfat (*Eurotia lanata*).

In most cases, where allotments have significant amounts of both intensive and non-intensive management areas, the allotments will be managed according to the category of tortoise habitat affected. In allotments where the tortoise habitat is predominantly of one category, all tortoise habitat will be managed by the prescription identified for that category. For example, the White Basin allotment contains 169,000 acres of non-intensive Category III habitat but only 3,000 acres of Category II habitat. In this case, all tortoise habitat will be managed per Prescription 2. However, in most cases, the grazing prescription will be applied specific to the categories of habitat within the allotment.

Salt and mineral supplements will be placed a minimum of one mile from water.



### Allotment Categorization

Management categories for each allotment are identified in Table 2-8.

### Use Adjustment Criteria

Use adjustments for all allotments will be based on results of monitoring studies and determinations made through the allotment evaluation process, as specified in the *Nevada Rangelands Monitoring Handbook* (NRSTF 1984), BLM Grazing Handbooks, Regulations, and Policy, and as further detailed below.

Utilization monitoring studies in ephemeral allotments will be conducted at least once every 3 months during the active grazing period to determine utilization levels and potential availability of forage for the next license period. Utilization studies will be conducted at least twice annually in other classified allotments (once in late summer or early fall, and once at the end of the plant dormant period just prior to spring green up). These studies will be conducted at existing key areas. In allotments without established key areas, new key areas will be located by range and wildlife specialists. These new key areas will be established within one mile from reliable waters where possible and consistent with overall management objectives. If existing key areas are insufficient to adequately monitor potential impacts of grazing on forage resources, additional utilization studies may be added, as determined by an inter-disciplinary team of range and wildlife specialists. Plant species composition represented in the general habitat area should be included in each key area. Use-pattern mapping will also be conducted on an annual basis. Range monitoring studies will only be conducted on active allotments.

## **WILD HORSE AND BURRO MANAGEMENT**

### **Objectives:**

Achieve and maintain healthy, viable herds of wild horses and/or burros within the herd management areas in a natural, thriving ecological balance with other rangeland uses. A thriving ecological balance occurs when use of key perennial forage species in selected key areas does not exceed 55 percent of the current year's growth, forage plant species exhibit static or apparent upward trend, sufficient water for the number of animals found in the HMA is available and the wild horses/burros found in an area are in fair to good physical condition throughout the year.

A healthy, viable herd is present when the herd contains proportionate numbers of older and younger animals and births exceed "natural" deaths within the HAs. (Herd Areas were delineated in 1972 as required by P.L. 92-195. Herd Management Areas were designated by the *Clark County MFP* (1984) and the *Esmeralda-Southern Nye RMP* (1985).

Maintain or improve the habitat of wild horses and burros to the desired plant community or to PNC.

Maintain the wild, free-roaming character of the wild horses and burros on the public lands.

### **Management Areas:**

Wild horse and burro management areas are shown on Map 2-12 and in Table 2-9.



**Table 2-8. Allotment management categories - Alternative A.**

<u>Improve (I)</u>	<u>Maintain (M)</u>	<u>Custodial (C)</u>
Azure Ridge	Arrow Canyon	Acton Farrier
Billy Goat Peak	Hen Springs	Black Butte
Bunkerville	Lucky Strike	County Line
Christmas Tree Pass	White Basin	Dry Lake
Crescent Peak		Flat Top Mesa
Gold Butte		Glendale
Hidden Valley		Jack Rabbit
Ireteba Peaks		Kyle Canyon
Jean Lake		Lime Spring
McCullough Mountains		Lower Mormon Mesa
Mesquite Community		Mesa Cliff
Upper Mormon Mesa		Muddy Mountains
Wheeler Wash		Muddy River
Mount Stirling		Newberry Mountains
		Overton Arm
		Pittman Well
		Pulsipher Wash
		Roach Lake
		Rox
		South Point
		Stump Spring
		Table Mountain
		Toquop Sheep
		Ute
		Virgin River Bottom

**Management Direction:**

Limit utilization by all herbivores on key perennial forage species in key areas within HMAs to 55 percent of the current year's production.

Develop and maintain dependable water sources for the wild horses and burros found on the public range.

Gain more specific management capability and control over the wild horse and burro populations in the Spring Mountains, through realignment of the HMAs in the area (see Map 2-12).

Red Rocks HMA (formerly part of Spring Mountains HMA)  
 Lucky Strike HMA (formerly part of Spring Mountains HMA)  
 Johnnie HMA (formerly Last Chance and Mt. Stirling HMAs)  
 Trout Canyon HMA (formerly part of Spring Mountains HMA)

The following HMAs will remain as designated in the *Clark County MFP* and the *Esmeralda-Southern Nye RMP* (see Map 2-12):



**Table 2-9. Wild horse and burro Herd Management Areas.**

<u>HMA</u>	<u>Initial Herd Size</u>	<u>Estimated LTML</u>
El Dorado HMA	60 burros	75 burros
Gold Butte HMA	254 burros	125 burros
Muddy Mountains HMA	23 horses	0 horses
	13 burros	50 burros
Red Rocks HMA	35 horses	50 horses
	60 burros	60 burros
Lucky Strike HMA	50 horses	50 horses
	50 burros	50 burros
Johnnie HMA	195 horses	185 horses
	150 burros	150 burros
Amargosa HMA	0	0
Trout Canyon HMA	10 horses	10 horses
	10 burros	10 burros

(Source: BLM, 1987 Population Inventory).

Eldorado HMA  
 Gold Butte HMA  
 Muddy Mountains HMA  
 Amargosa HMA

Coordinate herd management with the National Park Service and the U.S. Forest Service where HMAs extend across administrative boundaries. Herd use areas may decrease in size within the HMAs as a result of these coordinated management agreements and the objectives of the USFWS' Recovery Plan for the desert tortoise.

Table 2-9 displays the initial herd sizes and proposed Estimated Long-Term Management Level of horses/burros (LTML)(adult animals) in each HMA/Proposed HMA or Herd Area. The final Long-Term Management Levels for each HMA will be determined through monitoring of the animal population, forage, and water.

Develop water sources, where needed, to allow more even distribution of horses and burros throughout the HMAs. BLM must obtain water rights to the sources to ensure that adequate water will be available for the wild horses and burros.

Develop Herd Management Area Plans (HMAPs) for each HMA, detailing AML or proposed AML, management criteria, water development, removal criteria including the introduction of animals to



replace any lost to drought, unauthorized removal or accidental death, improvements in the gene pool, and to prevent inbreeding.

Adjust the Gold Butte burro management area boundary to coincide with the lower boundary of the Gold Butte ACEC. Very little, if any, use by burros occurs in this area. The boundary of the herd area will not be changed.

Develop means for wild horses and burros to cross Nevada State Route 160 that will not interfere with the traffic patterns or cause stress to the animals.

Consider constructing underpasses on Highway 160 from Cottonwood Valley (south of Blue Diamond) to allow safe passage of horses and burros across that highway.

#### Adjustment Criteria:

Animal adjustments will be made when use of key forage species in key areas reaches the appropriate level of the current year's growth for that species, as outlined in the *Nevada Rangeland Monitoring Handbook* (NRSTF 1984). Reductions in use will be proportioned between livestock, wild horses, and burros where combined use of the three species exceeds the allowable use. In areas where no livestock grazing is authorized, utilization will be lowered through reduction of the wild horse and burro populations.

When the removal of livestock and wild horses and burros is required in the Eldorado, Gold Butte, Muddy Mountains, Johnnie, and Lucky Strike HMAs, such removals will be proportionate between the grazing users, as determined by monitoring studies, specifically utilization of key forage plants:

Wild horses and burros will be removed from the Red Rocks HMA only when grazing exceeds the allowable use or when the horses and/or burro(s) become "problem animals" or traffic hazards on NV State Routes 159 and/or 160.

Wild horses and burros will be removed as expeditiously as possible from private lands within the planning area, after a request is made by the private landowner and reasonable efforts to keep the animals off private property have failed.

Wild horses and burros which have expanded beyond existing herd area boundaries will be removed only if reasonable efforts to keep the animals within said boundaries fail.

#### Resource Constraints:

Any fence constructed within the planning area will consider the wild, free-roaming habits of the wild horses and burros and will be authorized only when the wild, free-roaming character of the animals will not be constrained.

Any new water development within the HMAs, except water developed for culinary purposes and rainwater catchments for wildlife, will be made available for use by wild horses and/or burros.

El Dorado HMA - Limit OHV use to established roads and trails only and camping to designated or established campgrounds.

Gold Butte HMA - Limit OHV use to existing roads, trails, and washes.

Muddy Mountains HMA - Limit OHV use to existing roads, trails, and washes only.



Johnnie HMA - Limit OHV use to existing roads, trails, and washes.

Lucky Strike HMA - Limit OHV use to existing roads, trails, and washes.

Red Rocks HMA - Limit motor vehicle use to designated roads and trails only. Limit camping/day use to designated areas only.

Trout Canyon HMA- Limit OHV use to existing roads, trails, and washes.

#### Constraints on Wild Horses and Burros:

Grazing use in the Red Rocks, Lucky Strike, Johnnie, and Gold Butte HMAs will be closely monitored during the growing season for all forage plants to ensure forage is made available for desert tortoise.

The rights-of-way of NV S.R. 159 (through the Red Rock Canyon National Conservation Area) and 160 (from Pahrump to the junction with U.S. Highway 95) should be fenced to keep the horses and burros off the roads and prevent confrontations with motor vehicles. This will necessitate interfering somewhat with the wild, free-roaming nature of the animals, but will prevent deaths/injury to the animals and to humans as well as preventing property damage.

#### Wild Horse and Burro Ranges:

No wild horse or burro ranges are recommended for approval by the Director.

### CULTURAL RESOURCE MANAGEMENT

#### Objectives:

Cultural and paleontological resources known and projected to occur have been and will continue to be identified through a combination of actions. Archeological sites recorded by avocationalists and professional archeologists and paleontologists are placed into a data base maintained by BLM. All Federal actions require review for cultural resources through an identification and evaluation procedure. When locations of archeological sites and other cultural resources are identified and determined to be within an Area of Potential Effect (APE) for a Federal action, efforts are first made to preserve the properties. Avoidance of sites allows the least impacts and is the preferable alternative. When adverse effects to properties or areas determined eligible for nomination to the National Register of Historic Places are unavoidable, efforts are made to mitigate all or in part the impacts to the properties through the Section 106 process. Although data recovery can provide positive effects by adding to the existing data base, archeological properties and cultural resources are nevertheless destroyed, and the actions may be considered in terms of negative impacts.

Review for paleontological resources under Federal actions includes evaluation for the potential presence of significant paleontological sites, utilizing available data and field inventory by paleontologists in areas determined by BLM to be in medium and high potential areas.

Manage for information potential all roasting pit, camp/open lithic scatter, rock feature, and historic trash scatter site types. Representative samples of each site type would be preserved for conservation purposes.

Manage cultural resources on 1,500 acres of public lands within the Virgin River Anasazi prehistoric district for information potential or the ability to yield scientific, historic, or management information.



Manage for conservation potential those rockshelter, rock art locale, prehistoric and historic remains, mining sites, and historic road/trail site types located in areas that do not receive intensive recreational uses.

Manage cultural resources on 5,600 acres of public lands at Red Rock Spring and Stump Springs, the Hidden Valley district, the Bird Spring site, the Sloan rock art site, the Crescent and Gold Butte mining town sites, and the South Virgin Peak Ridge District for conservation of their overriding scientific or historic importance.

Manage for public values, rockshelter, rock art locale, prehistoric and historic structural remains, mining sites, and historic road/trail site types located in areas that have sustained or are projected to receive intensive recreational uses.

Manage cultural resources on 3,660 acres of public lands within the Arrow Canyon Rock Art District, the Brownstone Canyon National Register District, and the Keyhole Canyon, Frenchman Mine and Gypsum Cave areas for their public values, including sociocultural, educational, and recreational values.

Manage cultural resources on 31,000 acres of traditional lifeway areas (see Map 2-13) for their sociological public values by providing for their protection and preservation.

Manage paleontological resources on 12,000 acres of public lands within the Muddy Creek Formation and Eglington Escarpment paleontological districts for information potential or the ability to yield scientific, historic, or management potential.

Manage paleontological resources on 40 acres of public lands within the Arrow Canyon Bird Track paleontological site for conservation of its overriding scientific or historic importance.

#### Management Direction:

Cultural resources that have been determined eligible for nomination to the National Register of Historic Places and eligible for management for information potential should be subjected to the following direction.

Utilize data recovery efforts through research designs to help mitigate adverse effects to cultural resources and paleontological sites from proposed Federal actions.

Study known cultural and paleontological sites not expected to incur impacts from Federal actions through proactive research designs. The designs may be initiated by BLM or independent researchers and subject to the concurrence of BLM and SHPO.

Cultural resources that have been determined eligible for management for public values, and which may or may not be eligible for nomination to the National Register of Historic Places, should be subjected to the following direction.

Develop cultural resource activity plans that emphasize public interpretation.

The following linear and site-specific cultural resources should be designated as priorities for activity planning:

The route of the *Old Spanish Trail/Mormon Road*  
The *Las Vegas-Tonopah Railroad* grade



Lost Creek, Red Spring, Sandstone Quarry, and Willow Spring archeological sites (RRCNCA)  
Whitney Pocket archeological complex

Cultural resources that have been determined eligible for management for nomination to the National Register of Historic Places and for eligibility for conservation should be subjected to the following direction. If additional areas are designated by Native Americans or other parties as Traditional Lifeway Areas, they should also be managed for conservation.

Develop programs that use surveillance to monitor public uses. Where analysis of monitoring results indicates there is need for further protection, construct or install physical barriers, as appropriate.

The following cultural resources should be designated as priorities for activity planning:

Historic structural remains in Gold Butte, Crescent Peak, Goodsprings, and Searchlight mining districts.  
Hidden Valley Archeological District (Muddy Mountains).

Special cultural resource considerations that may affect the location, timing, or method of development or use of other resources in the planning area include the following.

Seasons when plants or animals whose presence are integral to the integrity of a Traditional Lifeway Area are in critical stages of their life cycle.

Release cultural resource sites designed for "management for conservation" only after the development of a Memorandum of Agreement among BLM, SHPO, and the Advisory Council on Historic Preservation, prepared in accordance with 36 CFR 800.5 which details efforts to conduct intensive documentation or retrieve the physical remains of the property.

Release paleontological sites designated for "management for conservation" uses only after the development of a research design approved by BLM to remove the specimens, create casts of the objects, and provide interpretive exhibits.

The following archeological site types should be managed for appropriate uses according to the prescriptions displayed in Table 2-10.

## **LANDS MANAGEMENT**

### **Objectives:**

Identify 155,258 acres of public lands as available for disposal through sale, exchange, color-of-title or R&PP patent to provide for the orderly expansion and development of southern Nevada and the public service needs of individual communities within the planning area.

### **Management Direction:**

Encourage local government and private individuals to purchase environmentally sensitive lands, or lands rich in valuable resources which could be exchanged for public lands, thus enhancing Federal land management.



**Table 2-10. Management direction for archaeological site types and cultural resources in SRA.**

<u>Site Type</u>	<u>Management Use</u>	<u>Prescription</u>
<b>Prehistoric</b>	Rockshelter <sup>1</sup>	Information Data recovery plan
	Rockshelter <sup>2</sup>	Conservation Monitoring/protection
	Rockshelter <sup>3</sup>	Public Uses Activity plan
	Roasting pit <sup>4</sup>	Information Data recovery plan
	Camp/lithic scatter <sup>4</sup>	Information Data recovery plan
	Rock feature <sup>4</sup>	Information Data recovery plan
	Structural remains <sup>1</sup>	Information Data recovery plan
	Structural remains <sup>2</sup>	Conservation Monitoring/protection
	Structural remains <sup>3</sup>	Public Uses Activity plan
	Rock art <sup>1</sup>	Information Data recovery plan
	Rock art <sup>2</sup>	Conservation Monitoring/protection
	Rock art <sup>3</sup>	Public Uses Activity plan
<b>Historic</b>	Structural remains <sup>1</sup>	Information Data recovery plan
	Structural remains <sup>2</sup>	Conservation Monitoring/protection
	Structural remains <sup>3</sup>	Public Uses Activity plan
	Trash/debris scatter <sup>4</sup>	Information Data recovery plan
	Road/trail <sup>1</sup>	Information Recordation
	Road/trail <sup>2</sup>	Conservation Monitoring/protection
<b>Traditional Lifeway Areas</b>	Road/trail <sup>3</sup>	Public Uses Activity plan
		Conservation Monitoring/protection/ Native Amer. consultation

Key:  
<sup>1</sup>=located in area proposed for severe disturbance or total destruction from Federal actions  
<sup>2</sup>=located in relatively isolated area, not projected for intensive recreational uses or Federal actions  
<sup>3</sup>=located in area projected for intensive recreational uses  
<sup>4</sup>=located in any area; representative samples for conservation previously selected in some location(s) in resource area



Resolve unauthorized agricultural use or other unauthorized occupancy of the public lands by whatever applicable authority provides the greatest benefit to the public.

Do not allow disposal of public lands through *Indian Allotment*, *Desert Land Entry* or *The Carey Act* authorization.

Resolve unauthorized use of public lands, where appropriate and determined to be in the interest of the United States, by sale, exchange, color-of-title or R&PP patent.

#### Disposal Areas:

The location of Section 203 disposal areas and lands available for disposal by exchange, color-of-title or R&PP patent are shown on Map 2-14 and include the areas shown in Table 2-11 (acres were calculated to scale with a planimeter and rounded to the nearest whole number).

Other lands presently available for disposal through sale only, have been identified through special legislation. The location of legislative disposal areas are shown on Map 2-15, and include the following:

P.L. 99-548, Mesquite, Nevada Lands Transfer Plan - 2,898 acres

P.L. 101-67, Apex Project, *Nevada Land Transfer and Authorization Act* of 1989 - 16,867 acres

P.L. 85-339, *Eldorado Valley Act* Lands - 128,401 acres

P.L. 73, *Henderson Sale Area* - 188 acres

P.L. 522, *Henderson Sale Area* - 80 acres

Upon termination of the legislative withdrawals for the Mesquite and Eldorado Valley disposal areas, any lands remaining in Federal ownership, which meet the disposal criteria, will be made available for disposal through the most appropriate authority.

#### Land Use Authorizations:

All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of ACECs, are available for land use leases and permits under Section 302 of FLPMA. Proposals will be handled in the following manner:

Land use lease or permit applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the lands involved will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

Where appropriate and determined to be in the interest of the United States, unauthorized use of public lands may be resolved by authorization of land use leases or permits.

Upon termination, expiration, or relinquishment of the public land lease area authorized to Aerojet Corporation through P.L. 100-275, the lands involved will be retained in Federal ownership and added to the Coyote Spring Valley ACEC.



**Table 2-11. Disposal areas - Alternative A.**

<u>Disposal Areas</u>	<u>Acres</u>
Amargosa	26,091
Dry Lake Valley	23,104
Glendale	4,773
Goodsprings	716
Indian Springs	522
Jean	2,965
Las Vegas Valley	61,838
Lathrop Wells	5,092
Laughlin	4,160
Logandale	2,076
Moapa	3,560
Nelson	1,673
Overton	362
Pahrump	10,734
Sandy	2,945
Searchlight	3,790
Whiskey Pete's	<u>857</u>
<b>Total</b>	<b>155,258</b>

All public lands within the planning area will be unavailable for airport leases under the authority of May 24, 1928, as amended, with the exceptions of those lands within a 2 mile radius of Jean and Searchlight, and those lands within a 3 mile radius of Pahrump. Proposals will be handled in the following manner:

No airport leases will be authorized within ACECs.

Airport lease applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the lands involved will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

**Land Classifications/Segregations:**

Valid Existing Management (see Appendix I)

Proposed Classifications/Segregations (see Appendix I)

**Withdrawals:**

Valid Existing Management (see Appendix I)



## Proposed Withdrawals

Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)  
Ash Meadows ACEC (37,078 acres)  
Big Dune ACEC (1,000 acres)  
Bird Spring Archaeological Site ACEC (160 acres)  
Crescent Mining Townsite ACEC (320 acres)  
Desert Tortoise Conservation Center (634 acres)  
Gold Butte Historic Mining Townsite ACEC (120 acres)  
Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)  
Keyhole Canyon Rock Art Site ACEC (160 acres)  
Pahrump Valley ACEC, Unit C (560 acres)  
Red Rock Springs Archaeological Site ACEC (640 acres)  
Sloan Rock Art Site ACEC (320 acres)  
Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)  
Virgin ACEC, Unit C (14,620 acres)  
Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)  
Within 1/4 mile of springs and associated riparian zones (2,333 acres)  
Within 1/4 mile of significant caves (3,200 acres)  
Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline- 36,000 acres)  
Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)  
Traditional Lifeways Areas (31,000 acres)

## NATURAL AREAS MANAGEMENT

### Research Natural Areas

The Sunrise Mountain Natural Area will be carried forward as valid existing management and designated as a Research Natural Area. Specific management direction is provided in the Sunrise Mtn.-Rainbow Garden ACEC section of the Special Management Area section of this alternative.

Pine Creek Canyon Natural Area will be carried forward as valid existing management and designated as a Research Natural Area. Specific management direction is provided in the Red Rock Canyon ACEC section of the Special Management Area section of this alternative.

#### Outstanding Natural Areas

Virgin Mountain Natural Area will be carried forward as valid existing management and designated as an Outstanding Natural Area. Specific management direction is provided in the Virgin Mountain ACEC section of the Special Management Area section of this alternative.

#### Natural Hazard Areas

Devil's Throat is designated as a Natural Hazard Area; specific management direction is provided in the Gold Butte ACEC section of the Special Management Areas section of this alternative.

### **RECREATION MANAGEMENT**

#### **Objectives:**

To maximize outdoor recreation opportunities by providing compatible recreation opportunities where feasible and enhancing management areas.

#### **Management Direction:**

Use public education and interpretation (subject to Section 7 consultation) to enhance management areas.

Maximize the use of Red Rock Canyon NCA and off-highway vehicle events to meet public demand for recreation opportunities.

Do not allow management actions which degrade, preclude the use of, or deny access to primary recreation areas.

Map 2-15 shows the locations of the Recreation Management Areas (RMAs) described below.

#### Red Rock Canyon National Conservation Area Special Recreation Management Area (SRMA)

#### **Objectives:**

Manage 32,470 acres within Red Rock Canyon National Conservation Area (NCA), including the escarpment, Spring Mountains, and the La Madre Mountains, for semi-primitive non-motorized recreation opportunities such as rock climbing, hiking, backpacking, photography, nature study, horseback riding, wildlife viewing, picnicking, interpretation, mountain biking, and non-OHV competitive and commercial permitted events and activities.

Manage the remaining 50,630 acres of Red Rock Canyon NCA for intensive recreation use including interpretation, picnicking, camping, photography, driving for pleasure, nature study, wildlife viewing, horseback riding, bicycle riding, hiking, rock climbing, and non-OHV competitive and commercial permitted events and activities.



To enhance the recreational, cultural, and natural values of Red Rock Canyon NCA by expanding the Red Rock Canyon boundary to include an additional 2,000 acres of adjacent public lands.

To ensure the continued scenic and management integrity of Red Rock Canyon NCA by acquiring, if available, 700 acres of private inholdings.

**Management Direction:**

Ensure the long-term conservation of the natural and cultural resources within Red Rock Canyon for public enjoyment and appreciation through multiple use management.

Provide resource-based recreation opportunities for the rapidly expanding population of Las Vegas in a manner compatible with other objectives and within the carrying capacity of the NCA.

Provide interpretive opportunities to improve public awareness of cultural and natural resources and to explain the mission of the BLM.

Provide natural resource education opportunities in the form of outreach programs to the residents of southern Nevada.

Provide for protection of fragile resources and the visiting public through the visitor services, interpretive, and law enforcement programs.

Do not allow commercial or recreation concession leases in semi-primitive non-motorized Recreation Opportunity Spectrum (ROS) areas.

Allow recreation concession leases in the intensive recreation use area where appropriate.

Revise and update the *Red Rock Canyon Master Plan* (USDI, BLM 1976) through the preparation of a Recreation Activity Management Plan.

Collect fees for entry to Red Rock Canyon NCA.

Prohibit all recreational and target shooting throughout the NCA. Legal hunting would be allowed on lands above 5,000 feet along the east slope of the Spring Mountains subject to NDOW regulations.

**Gold Butte SRMA**

**Objectives:**

Manage 354,305 acres of the Gold Butte area for semi-primitive recreation opportunities to reduce conflicts with existing uses and values, including but not limited to wildlife habitat; cultural resources; and livestock grazing.

Within the Gold Butte area, manage 74,340 acres for semi-primitive nonmotorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Within the Gold Butte area, manage 126,006 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Manage the remaining 153,959 acres within the area for moderate intensity recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Management Direction:

Prohibit all competitive OHV events.

Allow non-OHV competitive and commercial permitted events and activities on a case-by-case basis.

Recreation concession leases will not be allowed in the SRMA.

Establish three semi-developed camping/picnicking facilities.

Prepare a RAMP.

Muddy Mountains SRMA

Objectives:

Manage 123,377 acres of the Muddy Mountain area for semi-primitive recreation opportunities to reduce conflicts with existing uses and values, including but not limited to wildlife habitat, cultural resources, and other recreational uses.

Within the Muddy Mountain area, manage 78,480 acres for semi-primitive nonmotorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Within the Muddy Mountain area, manage 44,897 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Management Direction:

Prohibit all competitive OHV events.

Allow non-OHV commercial and competitive permitted events and activities.

Recreation concession leases will not be allowed in the SRMA.

Establish two semi-developed camping/picnicking areas within the SRMA.

Prepare a RAMP.



### Arrow Canyon SRMA

#### Objective:

Manage 31,700 acres of the Arrow Canyon area for semi-primitive recreation opportunities such as hiking, picnicking, interpretation, photography, wildlife viewing, and nature study, and to protect cultural resources.

#### Management Direction:

Prohibit all commercial and competitive permitted events and activities.

Recreation concession leases will not be allowed in the SRMA.

Establish a day use recreation facility.

Prepare a RAMP.

### Las Vegas/Nellis Dunes SRMA

#### Objective:

Manage 9,180 acres of the Las Vegas/Nellis Dunes area for intensive OHV and other recreation opportunities such as OHV events, OHV freeplay, picnicking, photography, and non-OHV commercial and competitive permitted activities.

#### Management Direction:

Determine an appropriate number of OHV events that could be permitted to ensure a quality OHV recreational experience for the public.

Prepare a RAMP.

Prohibit recreational and target shooting throughout the SRMA. Legal hunting would be appropriate subject to NDOW regulations.

Allow cooperative ventures such as concession management to enhance recreation opportunities.

### Sunrise Mountain SRMA

#### Objectives:

Manage 31,400 acres of the Sunrise/Frenchman Mountain/Rainbow Gardens area for intensive recreation opportunities such as hiking, picnicking, pleasure driving, interpretation, nature study, camping, horseback riding, mountain bike riding, and photography.

#### Management Direction:

Prohibit competitive OHV events.

Allow non-OHV competitive and commercial permitted events and activities.

Allow recreation concession leases.

Concentrate major power transmission rights-of-way within the confines of the corridor to reduce conflicts with recreation and to reduce impacts to scenic resources such as Rainbow Gardens.

Maintain the scenic and interpretive integrity of the area's geologic formations.

Prepare a RAMP.

Determine an appropriate area for the development of a camping and picnicking facility.

Designate a Back Country Byway within the SRMA.

Prohibit recreational and target shooting throughout the SRMA. Legal hunting would be appropriate subject to NDOW regulations.

#### Jean Lake/Roach Lake SRMA

##### Objective:

Manage 113,298 acres of the Jean/Roach Dry Lakes area for intensive recreation opportunities such as OHV events, OHV free-play, camping, picnicking, mountain bike riding, horseback riding, photography, hang gliding, and other non-OHV competitive and commercial recreational activities.

##### Management Direction:

Determine an appropriate number of OHV events that the SRMA is capable of sustaining that will ensure quality recreational opportunities.

Allow recreation concession leases.

Prepare a RAMP that includes prescriptions on race management.

#### El Dorado Valley SRMA

##### Objective:

Manage 71,099 acres of the El Dorado Dry Lake area for intensive recreation opportunities such as OHV events, OHV free-play, camping, picnicking, mountain bike riding, horseback riding, photography, ultra-light and other mechanized flying, and other non-OHV competitive and commercial recreational activities.

##### Management Direction:

Determine an appropriate number of OHV events that the SRMA is capable of sustaining that will ensure quality events and quality non-event OHV opportunities.

Prepare a RAMP that includes prescriptions on race management.



### Nelson Hills/Keyhole Canyon SRMA

#### Objectives:

Manage 43,705 acres of the Nelson Hills/Keyhole Canyon area for quality moderate intensity OHV events in the Nelson Hills and for semi-primitive motorized recreation opportunities emphasizing cultural resource protection and interpretation at Keyhole Canyon. Manage for OHV competitive events and casual OHV use, hiking, camping, interpretation, mountain bike riding, picnicking, photography, climbing, hunting, and nature study.

#### Management Direction:

Allow competitive OHV permitted events in the Nelson Hills subject to the appropriate OHV designations.

No competitive events or activities will be allowed in the Keyhole Canyon area.

Allow appropriate commercial permitted activities on a case-by-case basis.

Recreation concession leases will not be allowed.

Prepare a RAMP that includes prescriptions for race management.

### Christmas Tree Pass SRMA

#### Objective:

Manage 55,960 acres of the Christmas Tree Pass for semi-primitive motorized recreational opportunities including camping, hiking, mountain bike riding, interpretation, climbing, wildlife viewing, picnicking, hunting, pleasure driving, photography, horseback riding, and nature study.

#### Management Direction:

Prohibit all OHV competitive events.

Allow non-OHV competitive and commercial events and activities on a case-by-case basis.

Recreation concession leases will not be allowed within Category I or II desert tortoise habitat; recreation concession leases will be allowed elsewhere within the SRMA subject to managing the SRMA for semi-primitive recreation opportunities.

Establish one semi-developed camping facility.

Prepare a RAMP.

### Desert View SRMA

#### Objectives:

Manage 90,825 acres of the Desert View area for interpretation of the area's scenic and ecological transition zones in both Kyle and Lee Canyons. Manage for interpretation, hiking, picnicking, photography, horseback riding, wildlife viewing, mountain bike riding, camping, and nature study.

Manage the corridor along the Kyle and Lee Canyon Roads as a scenic Byway to protect the area's viewshed.

#### Management Direction:

Prohibit all OHV competitive events.

Allow non-OHV competitive and commercial events and activities and recreation concession leases.

Prepare a RAMP.

### Big Dune SRMA

#### Objectives:

Manage 1,000 acres of the Big Dune area to protect habitat for the Big Dune Scarab Beetle while allowing moderate, casual OHV use, camping, picnicking, photography, interpretation, and nature study, and other casual recreational opportunities in designated areas.

#### Management Direction:

Prohibit all OHV and non-OHV competitive events.

Do not allow commercial activities in special status species habitat.

Recreation concession leases will not be allowed.

Prepare a RAMP.

### Old Spanish Trail/Mormon Road SRMA

#### Objectives:

Manage 112 miles (approximately 271 acres) of the Old Spanish Trail/Mormon Road as a National Historic Trail. Enhance public recreation opportunities, including interpretation, hiking, horseback riding, photography, and cultural and nature study on the portions that lack cultural integrity. Protect those portions of the trail that retain cultural integrity.

Manage a 1/2 mile corridor along the entire trail to protect the trail's resources and visual integrity.



Management Direction:

Prohibit OHV competitive events along remaining portions of the trail.

OHV competitive events will be allowed to cross the trail at appropriate locations.

Allow non-OHV competitive and commercial events and activities where appropriate.

Recreation concession leases will not be allowed.

Prepare a RAMP for the trail.

Seek designation of the trail as a National Historic Trail.

Stateline Extensive Recreation Management Area (ERMA)

Objective:

Manage 2,661,907 acres of the Stateline Extensive Recreation Management Area for dispersed and diverse recreation opportunities that meet the objectives of the Recreation Opportunity Spectrum inventory.

Management Direction:

Manage that portion of the utility corridor designated in the northern most region of the Las Vegas Valley, 1 mile in width and approximately 32 miles in length, for non-motorized road and trail events only. The portion of the corridor described above is located within the following legal description: T. 17 S., R. 58 E., secs. 14-18, 21-23, 25-27, 35, 36; T. 18 S., R. 58 E., secs. 1, 2, 12; T. 18 S., R. 59 E., secs. 6-8, 16-18, 20, 21, 28, 33; T. 19 S., R. 59 E., secs. 1-4; T. 19 S., R. 60 E., secs. 1-6; T. 19 S., R. 61 E., secs. 13-18, 24; T. 19 S., R. 62 E., secs. 12-15, 19-23; T. 19 S., R. 63 E., sec. 18.

Allow OHV competitive events on designated courses only in the following areas:

Dry Lake Valley Area (one race per year).

Pahrump to Beatty Area (one race per year).

Mercury Area.

Highland Hills Area (the number of races and race management prescriptions to be determined through a race management plan).

Laughlin Area (one race per year).

Bitter Springs Area (one race per year).

Allow non-OHV competitive and commercial events and activities throughout the ERMA subject to conflict resolution.

Allow recreation concession leases that benefit the Recreation Opportunity Spectrum inventory management classes.

Prepare a RAMP for the ERMA.

Manage for a full spectrum of dispersed recreation opportunities throughout the ERMA.

Prohibit recreational and target shooting on public lands within the Las Vegas Valley. Legal hunting would be appropriate subject to NDOW regulations.

#### Off Highway Vehicle Designations

##### Objectives:

Designate 9,180 acres in the following areas and shown on Map 2-16, as open to motorized uses to provide for maximum opportunities for off-highway vehicle use.

##### Las Vegas/Nellis Dunes SRMA

Designate 2,524,889 acres, as shown on Map 2-16, as limited to existing roads and trails to provide for a high level of off-highway vehicle use while affording a moderate level of protection for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and to protect other legitimate users of the public land.

Designate 1,124,868 acres in the following areas, as shown on Map 2-16, as limited to designated roads and trails. This designation would provide for a moderate level of off-highway vehicle use with a high level of protection for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and other legitimate users of the public land.

Amargosa Mesquite ACEC  
Ash Meadows ACEC  
Big Dune ACEC (that portion shown on Map 2-16)  
Bird Spring Archaeological Site ACEC  
Coyote Springs Valley/Mormon Mesa ACEC  
Crescent Mining Townsite ACEC  
Gold Butte Historic Mining Townsite ACEC  
Ivanpah ACEC  
Keyhole Canyon Rock Art Site ACEC  
Old Spanish Trail/Mormon Road Trail ACEC  
Pahrump Valley ACEC  
Piute Valley ACEC  
Red Rock Canyon ACEC  
River Mountains ACEC  
Sloan Rock Art Site ACEC  
Sunrise Mountain ACEC  
Virgin ACEC (that portion shown on Map 2-16)

Designate 12,190 acres in the following areas, as shown on Map 2-16, as closed to motorized uses to provide a maximum level of protection for wildlife habitat, cultural resources, hydrological and soil resources, non-motorized recreation opportunities, and other legitimate users of the public land.

Hidden Valley District ACEC  
Virgin ACEC (that portion shown on Map 2-16)



## Cave Management

### Objectives:

Manage significant caves and karst resources for their recreational, biological, geological, hydrological, cultural, and educational values.

Manage each cave for its primary unique resource opportunity such as for paleontological or recreational values.

### Management Direction:

Prepare a RAMP for all significant caves and karst resources that determines the primary value being managed for in each cave.

Manage all cave and karst resources as wild systems, free from commercial or show cave type developments.

Establish a registration system for cave entry, where needed. This system could include signs, registers, and gates.

Designate all significant cave and karst resources and newly-discovered caves and karst resources as right-of-way avoidance areas.

## **WILD AND SCENIC RIVERS MANAGEMENT**

### Objective:

Determine the eligibility of the Virgin River for Wild and Scenic River designation based on the river being classified as a "Recreational River".

### Management Direction:

Prepare a legislative EIS/Study of the Virgin River with the Cedar City District, Utah, the Arizona Strip District, and the Las Vegas District, Nevada to determine the suitability of the river for designation into the National Wild and Scenic Rivers System.

Provide interim management protection for the river by requiring any proposed action to consider the potential affect on the river's classification as a "Recreational River."

## **RIGHTS-OF-WAY MANAGEMENT**

### Objectives:

Meet public demand and reduce impacts to sensitive resources by providing an orderly system for transportation, communications, major utility transmission lines and related facilities.

### Management Direction:

## Utility/Transportation Corridors

Retain the following designated corridors as valid existing management:

Numerous corridors, established within the Apex sale area by P.L. 101-67, consisting of existing powerline rights-of-way ranging from 300 feet to 1800 feet in width, for a total length of approximately 32 miles.

That corridor established in Coyote Springs Valley by the Aerojet Legislation, being 1 mile wide and approximately 4 miles long.

Designate the following corridors:

A corridor for those lands presently under right-of-way reservation in the Moapa Indian Reservation Legislation, extending 1500 feet westerly of the right-of-way for the Reid Gardner-Pecos transmission lines through the area 1500 feet easterly of the right-of-way for the Navajo-McCullough transmission line, approximately 13 miles in length.

A corridor 2 miles in width and 2 miles in length, passing through the Sunrise ISA; activation and use of this corridor is contingent upon Congressional action releasing the ISA from further wilderness consideration and study.

See Map 2-17 for the location of corridors designated in this alternative. Approximately 540,247 acres are involved, including legislative designations and the proposed Sunrise Mountain designation, with corridors ranging in width from 1 mile to 3 miles for a total length of approximately 590 miles.

Corridors not considered:

The corridor entering Nevada at Nipton Road and designated as Contingent Corridor W in the *California Desert Conservation Area Plan* (CDCAP), dated 1980, will not be carried forward in this alternative. The 1988 *East Mojave National Scenic Area Management Plan* recommended elimination of the corridor; elimination was accomplished by a plan amendment to the CDCAP.

The corridor designated along the eastern boundary of U.S. Highway 93 between the Aerojet Conveyance Area and the Apex Project Area will not tie into the corridor designated inside the west boundary of the project area. Per an industry request, the corridor will stop approximately five miles short of the project area, continue east, and tie into the corridor extending southwesterly from the Moapa Indian Reservation.

Corridor Terms and Conditions:

No newly designated corridor will be over 3 miles in width. Within ACECs, newly designated corridors will be limited to 2 miles in width.

No rights-of-way will be authorized within corridors designated in WSAs or ISAs until Congress releases them from further wilderness consideration and study.

When determined feasible, and where compatible, major pipeline rights-of-way will be placed within powerline corridors.

If the Sunrise ISA is dropped from further consideration, the corridor running through that area will be limited to transmission lines 250kv and above.



### Right-of-Way Avoidance Areas

The following areas, *exclusive of any designated corridors*, are designated as right-of-way avoidance areas. The BLM will discourage the location of rights-of-way within these areas. If technical, economic, or environmental concerns mandate right-of-way location in an avoidance area, special terms and conditions, as identified below, will be required.

All ACECs

Semi-primitive nonmotorized ROS areas

Significant caves (within 1/4 mile)

Wilderness Study Areas

Special terms and conditions:

Facilities shall be placed underground whenever possible.

Similar types of utilities shall be co-located whenever possible and feasible.

All other special terms and conditions will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

### Right-of-Way Exclusion Areas

Right-of-way exclusion areas in the Stateline Resource Area will be limited the following:

No material site rights-of-way will be authorized within ACECs.

All other right-of-way applications received from private individuals, corporations, and state, and local governments will be addressed on a case-by-case basis.

### Areal Rights-of-Way

See Map 2-7 for the present location of existing established communication sites that will be carried forward in this alternative.

Authorization of future communication site rights-of-way will be limited to the following:

Existing established communication sites.

Within existing rights-of-way and facilities until a site management plan has been approved for that site. Exceptions will be made if the use of an established site is not technically or economically feasible and justification of same is presented.

Access will be by existing roads or helicopter only.

Authorization of new material site rights-of-way will be contingent upon the following:

Evaluation of the 178 existing sites, and justification of continued use of existing sites or need of additional sites.

Coordination with NDOT will be ongoing and BLM will encourage relinquishment of sites not being used or identified by NDOT as no longer needed.

Incorporation of the terms and conditions (contained in Appendix C, p.4) for future sites. (Terms and conditions are in conformance with the regulations contained in 43 CFR 23).

#### Trespass Resolution

Where appropriate and determined to be in the interest of the United States, unauthorized use of public lands may be resolved by authorization of a right-of-way.

### **WILDERNESS MANAGEMENT**

#### Section 202 Lands

##### Objectives:

Determine the eligibility of 20,299 acres of land in the Logandale area, under Section 202 of FLPMA, for potential designation as wilderness.

##### Management Direction:

Release the Logandale Unit from further consideration as wilderness due to the existing uses of the area as a roaded natural recreation area. These uses have impacted the area's naturalness and comprised its primitive and unconfined recreational opportunities potential.

#### Arrow Canyon Range WSA (NV-050-215)

##### Objectives:

Should Congress not designate the Arrow Canyon Range as wilderness, manage 32,853 acres of land for semi-primitive non-motorized recreation opportunities including hiking, backpacking, horseback riding, camping, nature study, photography, and interpretation.

##### Management Direction:

Refer to Coyote Springs/Arrow Canyon ACEC and Arrow Canyon SRMA Management Direction for specific management direction.

#### Muddy Mountains WSA (NV-050-229)

##### Objectives:

Should Congress not designate the Muddy Mountains as wilderness, manage 65,160 acres for semi-primitive non-motorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Should Congress not designate the Muddy Mountains as wilderness, manage 20,351 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife



viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Should Congress not designate the Muddy Mountains as wilderness, manage 10,659 acres for roaded natural recreation opportunities.

**Management Direction:**

Refer to Muddy Mountain SRMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

**Mt. Stirling WSA (NV-050-401)**

**Objectives:**

Should Congress not designate the Mt. Stirling area as wilderness, manage 3,511 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

**Management Direction:**

Refer to Stateline ERMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

**La Madre Mountains WSA (NV-050-412)**

**Objectives:**

Should Congress not designate the La Madre Mountains as wilderness, manage 13,435 acres for semi-primitive non-motorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Should Congress not designate the La Madre Mountains as wilderness, manage 22,973 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Should Congress not designate the La Madre Mountains as wilderness, manage 24,498 acres for roaded natural recreation opportunities.

**Management Direction:**

Refer to Red Rock Canyon ACEC/SRMA and Desert View SRMA Management Direction for specific management direction.

Pine Creek WSA (NV-050-414)

Objectives:

Should Congress not designate the Pine Creek area as wilderness, manage 19,546 acres for semi-primitive non-motorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Management Direction:

Refer to Red Rock Canyon ACEC/SRMA Management Direction for specific management direction.

North McCullough Range WSA (NV-050-425)

Objectives:

Should Congress not designate the North McCullough Range as wilderness, manage 32,100 acres for semi-primitive non-motorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Should Congress not designate the North McCullough Range as wilderness, manage 15,066 acres for the following recreation opportunities including hiking, camping, interpretation, mountain bike riding, picnicking, photography, hunting, and nature study.

Management Direction:

Refer to Stateline ERMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

South McCullough Range WSA (NV-050-435)

Objectives:

Should Congress not designate the South McCullough Range as wilderness, manage 27,480 acres for semi-primitive non-motorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Should Congress not designate the South McCullough Range as wilderness, manage 10,257 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Should Congress not designate the South McCullough Range as wilderness, manage 18,886 acres for the following recreation opportunities including hiking, camping, interpretation, mountain bike riding, picnicking, photography, hunting, and nature study.

Management Direction:

Refer to Stateline ERMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.



Resting Springs WSA (NV-050-460)

Objectives:

Should Congress not designate Resting Spring as wilderness, manage 3,850 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Management Direction:

Refer to Stateline ERMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

Fish and Wildlife #1 WSA (NV-050-201), Fish and Wildlife #2 WSA (NV-050-216) and Fish and Wildlife #3 WSA (NV-050-217)

Objectives:

Should Congress not designate these WSAs as wilderness, manage 50,334 acres for the following recreation opportunities including hiking, camping, interpretation, mountain bike riding, picnicking, photography, hunting, nature study, horseback riding, hunting, and pleasure driving.

Management Direction:

Refer to Stateline ERMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

Lime Canyon WSA (NV-050-231), Million Hills WSA (NV-050-233), Garret Buttes WSA (NV-050-235), Jumbo Springs WSA (NV-050-236), and Virgin Mountain ISA (NV-050-222)

Objectives:

Should Congress not designate the Lime Canyon, Million Hills, Garret Buttes, and Jumbo Springs as wilderness, manage 71,277 acres for semi-primitive non-motorized recreation opportunities including hiking, backpacking, picnicking, photography, horseback riding, hunting, and nature study.

Should Congress not designate Virgin Mountain as wilderness, manage 6,560 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

Management Direction:

Refer to Gold Butte SRMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

Quail Spring WSA (NV-050-411), El Dorado WSA (NV-050-423), Iretaba Peaks WSA (NV-050-438), and Nellis WSAs (NV-050-4R-A, NV-050-4R-B, and NV-050-4R-C)

**Objectives:**

Should Congress not designate any of these WSAs as wilderness, manage 45,147 acres for semi-primitive motorized recreation opportunities including camping, picnicking, interpretation, hiking, wildlife viewing, pleasure driving, horseback riding, hunting, mountain bike riding, photography, and nature study.

**Management Direction:**

Refer to Stateline ERMA Management Direction and the OHV Designation, Minerals, Lands, and Rights-of-Way sections for specific management direction.

Sunrise Mountain ISA (NV-050-420)

**Objectives:**

Manage 10,240 acres of the Sunrise/Frenchman Mountain/Rainbow Gardens area for intensive recreation opportunities such as hiking, picnicking, pleasure driving, interpretation, nature study, camping, horseback riding, mountain bike riding, and photography.

**Management Direction:**

Refer to Sunrise Mountain SRMA Management Direction for specific management direction.

**MINERALS MANAGEMENT**

**Objectives:**

Provide for the orderly exploration and development of minerals on Federally-owned mineral estate whether or not the surface estate is in Federal ownership.

**Management Direction:**

Allow fluid mineral leasing, subject to standard terms and conditions, on 747,779 acres.

Allow fluid mineral leasing, subject to seasonal and other minor constraints, on 3,205,952 acres.

Allow fluid mineral leasing, subject to no surface occupancy and similar major constraints, on 15,133 acres.

Do not allow fluid mineral leasing on 716,226 acres.

Allow locatable mineral activity on 3,703,833 acres (974,280 acres within ACECs).

Do not allow locatable mineral activity on 937,100 acres.

Allow saleable mineral disposal on 2,959,709 acres.



Do not allow saleable mineral disposal on 1,682,219 acres.

Allow solid mineral leasing on 3,943,316 acres.

Do not allow solid mineral leasing on 721,759 acres.

Renew existing sand and gravel leases.

Deny existing sand and gravel lease applications.

See Map 2-18 (a to c) for the locations of mineral management areas described below.

Fluid Minerals (4,685,090 acres)

Areas open subject to standard terms and conditions (747,779 acres):

All of the remainder of Stateline Resource Area except those areas closed to leasing, those areas open to leasing subject to no surface occupancy and other, similar major constraints, and those areas open to leasing subject to seasonal and other minor constraints.

Areas open subject to seasonal or other minor constraints (3,205,952 acres):

Bighorn sheep habitat (closed from May 1 through September 30) (447,270 acres).

Desert tortoise habitat (closed from March 1 to June 15) (2,759,242 acres).

Areas open subject to no surface occupancy and similar major constraints (15,133 acres):

Amargosa Mesquite ACEC (9,600 acres).

Springs and associated riparian zones (no surface occupancy within 1/4 mile) (2,333 acres).

Significant caves and karst resources (no surface occupancy within 1/4 mile) (3,200 acres).

Areas closed to leasing (716,226 acres):

Valid Existing Closures (216,746 acres).

Ash Meadows ACEC (37,078 acres).

Bird Springs Archeological Site ACEC (160 acres).

Coyote Springs/Mormon Mesa ACEC, Unit C (3,100 acres).

Crescent Mining Townsite ACEC (320 acres).

Gold Butte Historic Mining Townsite ACEC (120 acres).

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres).

Keyhole Canyon Rock Art Site ACEC (160 acres).

Sloan Rock Art Site ACEC (320 acres).

Stump Springs ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres).

Virgin ACEC, Unit C (12,700 acres).

Desert Tortoise Conservation Center (634 acres).

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres).

Las Vegas and Laughlin land disposal areas (65,998 acres).

Traditional Lifeways Areas (31,000 acres).

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile of trail centerline-36,000 acres).

Locatable Minerals (4,640,933 acres)

Areas open to the operation of the mining laws (3,703,833 acres):

ACECs open to the operation of the mining laws (974,280 acres).

Amargosa Mesquite ACEC (9,600 acres).

Big Dune ACEC (1,000 acres).

Coyote Springs/Mormon Mesa ACEC, Unit A (296,200 acres).

Ivanpah ACEC (147,860 acres).

Pahrump Valley ACEC (116,600 acres).

Piute Valley ACEC (189,900 acres).

River Mountains ACEC (14,600 acres).

Virgin ACEC, Unit A (203,800 acres).

All of the remainder of Stateline Resource Area except those areas closed to the operation of the mining laws (2,729,553 acres).

Areas closed to the operation of the mining laws, subject to valid existing rights (937,100 acres):

Valid Existing Closures (432,087 acres).

Ash Meadows ACEC (37,078 acres).

Bird Springs Archeological Site ACEC (160 acres).



Coyote Springs/Mormon Mesa ACEC, Unit C (3,100 acres).

Crescent Mining Townsite ACEC (320 acres).

Gold Butte Historic Mining Townsite ACEC (120 acres).

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres).

Keyhole Canyon Rock Art Site ACEC (160 acres).

Sloan Rock Art Site ACEC (320 acres).

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres).

Virgin ACEC, Unit C (12,700 acres).

Desert Tortoise Conservation Center (634 acres).

Within 1/4 mile of springs and associated riparian zones (2,333 acres).

Within 1/4 mile of significant caves and karst resources (3,200 acres).

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile of trail centerline - 36,000 acres).

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres).

Las Vegas and Laughlin land disposal areas (65,998 acres).

Traditional Lifeways Areas (31,000 acres).

Stump Springs ACEC (560 acres).

Mineral Materials (4,641,928 acres)

Areas open to mineral materials disposal and authorization/renewal of material site rights-of-way (2,959,709 acres):

All of Stateline Resource Area except those areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (2,959,709 acres).

Areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (1,682,219 acres):

Valid Existing Closures (145,586 acres).

Ash Meadows ACEC (37,078 acres).

Bird Springs Archeological ACEC (160 acres).

Coyote Springs/Mormon Mesa ACEC (299,300 acres).

Crescent Mining Townsite ACEC (320 acres).

Gold Butte Historic Mining Townsite ACEC (120 acres).

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres).

Ivanpah ACEC (147,860 acres).

Keyhole Canyon Rock Art Site ACEC (160 acres).

Pahrump Valley ACEC (116,600 acres).

Red Rock Canyon ACEC (83,100 acres).

Sloan Rock Art Site ACEC (320 acres).

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres).

Virgin ACEC (216,500 acres).

Desert Tortoise Conservation Center (634 acres).

Within 1/4 mile of springs and associated riparian zones (2,333 acres).

Within 1/4 mile of significant caves and karst resources (3,200 acres).

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile of each side of trail centerline -36,000 acres)

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres).

Las Vegas and Laughlin land disposal areas (65,998 acres).

Traditional Lifeways Areas (31,000 acres).

Piute Valley ACEC (189,900 acres).

Non-Energy Leasable Minerals (4,665,075 acres)

Areas open to non-energy mineral activities (3,943,316 acres):

All of Stateline Resource Area except those areas closed to non-energy mineral activities (3,943,316 acres).

Areas closed to non-energy mineral activities (721,759 acres):

Valid Existing Closures (216,746 acres).

Ash Meadows ACEC (37,078 acres).

Bird Springs Archeological Site ACEC (160 acres).



Coyote Springs/Mormon Mesa ACEC, Unit C (3,100 acres).

Crescent Mining Townsite ACEC (320 acres).

Gold Butte Historic Mining Townsite ACEC (120 acres).

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres).

Keyhole Canyon Rock Art Site ACEC (160 acres).

Sloan Rock Art Site ACEC (320 acres).

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres).

Virgin ACEC, Unit C (12,700 acres).

Desert Tortoise Conservation Center (634 acres).

Within 1/4 mile of springs and associated riparian zones (2,333 acres).

Within 1/4 mile of significant caves and karst resources (3,200 acres).

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile of each side of trail centerline -36,000 acres).

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres).

Las Vegas and Laughlin land disposal areas (65,998 acres).

Traditional Lifeways Areas (31,000 acres).

Stump Springs ACEC (560 acres).

## **ACQUISITIONS MANAGEMENT**

### **Objectives:**

To secure on-the-ground access to otherwise inaccessible public lands.

To acquire private lands to protect valuable resources and enhance management of adjacent BLM lands.

### **Management Direction:**

#### **Access Needs**

Obtain an easement on or across the Pabco Tram Road.

### Land Acquisition Needs

Where the lands are available and the current owner is willing, the BLM will attempt to acquire these lands: (a pool of approximately 12,679 acres)

All private lands within designated ACECs (Red Rock Canyon NCA included) (approximately 4,382 acres).

All private lands within the Ash Meadows ACEC but outside of the refuge boundary (approximately 415 acres).

If the opportunity arises, the BLM will attempt to acquire all lands located within the planning area conveyed into private ownership to Aerojet Corporation through P.L. 100-275. The approximate 7,882 acres involved are located in Coyote Spring Valley and will be retained in federal ownership as part of Coyote Spring Valley ACEC.

### **FIRE MANAGEMENT**

See Map 2-1 for locations of the initial attack areas.

#### Objectives:

To provide a level of fire suppression on 1,122,322 acres to suppress all wildfires at 500 acres or less 90 percent of the time.

To provide a level of fire suppression on 1,921,794 acres to suppress all wildfires at 100 acres or less 90 percent of the time.

To provide a level of fire suppression on 627,011 acres to maintain maximum fire size at 10 acres or less 90 percent of the time.

To provide prescribed burns for resource enhancement purposes on 149,231 acres.

To provide fuels reduction management for resource protection on 232,109 acres.

#### Management Areas:

##### Fire Suppression Areas

The planning area is subject to suppression for wildland fires, at varying levels of initial attack intensity.

Fire Use Areas - prescribed burning for resource enhancement (see Map 2-19):

Ash Meadows/Amargosa Flat (wildlife, vegetation)  
Bunkerville Allotment (grazing, wildlife, watershed)  
Gold Butte Allotment (grazing, wildlife, watershed, wild horses & burros)  
Mesquite Community Allotment (grazing)  
Newberry Mountains (wildlife, vegetation)  
Red Rock Canyon (vegetation, recreation, wild horses & burros)  
South McCullough Range (wildlife)  
Virgin Mountains (wildlife, vegetation)



Virgin River Floodplains (riparian, wildlife, water quality, recreation)

Fire Fuels Management Areas - fuel hazard reduction for resource/property protection (see Map 2-19):

Red Rock Canyon Ponderosa Pine and Pinyon-Juniper Woodlands (ladder fuel reduction)  
Virgin Peak White Fir Stands and Pinyon-Juniper Woodlands (ladder fuel reduction)  
South McCullough Range Pinyon-Juniper Woodlands (shaded fuel hazard reduction)  
Newberry Mountains Pinyon-Juniper Woodlands (shaded fuel hazard reduction)  
Spring Mountains Ponderosa Pine and Pinyon-Juniper Woodlands (ladder fuel reduction)

**Management Direction:**

Continue to provide for a maximum fire prevention program through an aggressive education and public outreach effort.

Continue to provide, maintain and/or upgrade fire management cooperative agreements, memoranda of understanding, and reciprocal agreements to provide maximum protection to resources and or adjacent property values.

Initiate a prescribed burn coordination meeting annually with resource specialists to determine specific prescribed burn priorities.

Initiate a hazard reduction burn coordination meeting annually with resource specialists to determine specific hazard reduction priorities.

Continue to provide for maximum fire protection through a comprehensive fire detection system using a multi-agency approach.

Continue to provide fire suppression efforts commensurate with resource and adjacent property values at risk.

**SPECIAL MANAGEMENT AREAS**

The location of all ACECs are shown on Map 2-20. The total acreage of proposed ACECs is approximately 1,151,938 acres in 18 areas.

**1. PIUTE VALLEY ACEC**

**Values:** Category I and II desert tortoise habitat, teddy bear cholla (*Opuntia biglovii*).

**Acreage:** 189,900 acres total  
148,000 acres Category I habitat  
41,900 acres Category II habitat

**Resource constraints:**

**Lands:**

Acquire non-Federal lands where available within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 189,900 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

**Range Management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:** (includes part of Christmas Tree Pass SRMA)

Limit motorized uses to designated roads and trails.

Prohibit all non-competitive and competitive OHV events. Non-OHV competitive and commercial events and activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No developed recreational facilities will be allowed in Category I and II tortoise habitat.

No recreation concession leases will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Piute Valley and Christmas Tree Pass population study plots (PSP) every 4 to 5 years or as appropriate.



## **2. IVANPAH ACEC**

**Values:** : Category II desert tortoise habitat, Category I candidate plant species (*Opuntia whipplei* var. *multigeniculata*).

**Acreage:** 147,860 acres of Category II tortoise habitat.

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 147,860 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:** (includes a portion of Jean/Roach Dry Lakes SRMA)

Limit motorized uses to designated roads and trails.

Do not allow OHV permitted events in the ACEC. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Sheep Mountain PSP once every 4 to 5 years or as appropriate.

Survey for and monitor populations of *Opuntia whipplei* var. *multigeniculata*.



### **3. PAHRUMP VALLEY ACEC**

**Values:** Category II desert tortoise habitat.

**Acreage:** 116,600 acres Category II tortoise habitat

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:** (applies to the entire ACEC, 116,600 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

##### **Range Management:**

Per Section 7 consultation.

##### **Roads and access:**

Allow new roads only on a temporary basis, in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

##### **Recreation/OHV:**

Limit casual OHV use to designated roads and trails.

Do not allow OHV permitted events in the ACEC. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in Pahrump Valley by reading the Trout Canyon PSP once every 4 to 5 years or as appropriate.



#### 4. COYOTE SPRINGS VALLEY/MORMON MESA ACEC

**Values:** Category I, II, and III desert tortoise habitat and Arrow Canyon archeological/paleontological district.

Cultural Resources - The archaeological portion of the district consists of hundreds of rock art panels along the canyon walls. The paleontological values consist of embedded tracks of extinct birds.

**Acreage:** 299,300 acres total:

- 141,000 acres Category I habitat
- 88,500 acres Category II habitat
- 69,000 acres Category III habitat
- 800 acres other (cultural sites)

**Resource constraints:**

**Lands:**

Acquire non-federal lands where available within Category I, II and III tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC except for Arrow Canyon archeological/paleontological district, 296,200 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

Arrow Canyon archeological/paleontological district- 3,100 acres.

Close to 1872 *Mining Law*. Mitigation for impacts to cultural will be required during the plan of operation stage on valid existing rights.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing subject to minor constraints.

**Range Management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

Do not allow new roads in the Arrow Canyon archeological/paleontological district- 3,100 acres.

**Recreation/OHV:**

Motorized uses will be limited to designated roads and trails.

Prohibit all OHV competitive events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed in Category I and II tortoise habitat.

**Cultural/Paleontological:**

A plan for specimen recovery at the Bird Tracks Area will be required for any Federal actions.

Monitor for impacts to the sites from recreational uses or natural erosion.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Coyote Springs PSP and the Mormon Mesa PSP once every 4 to 5 years or as appropriate.



## 5. VIRGIN ACEC

### Values: Threatened and Endangered Species

Category I and II desert tortoise habitat

Two endangered fish (woundfin and Virgin River roundtail chub)

Potential peregrine falcon habitat

### Other Wildlife Habitat

The diversity of botanical resources in the area results in a high diversity of all wildlife species. The Virgin Mountains provide habitat for desert bighorn and mule deer, and the Virgin River provides waterfowl habitat.

### Cultural and Historic Resources

The Virgin River Anasazi Prehistoric District is a series of pueblos and pit structures situated on terraces that overlook the river. These structures were constructed by the Virgin Anasazi who farmed the floodplain from approximately A.D. 500 to 1150.

The area also contains numerous shelter caves and agave roasting pits used by aboriginal hunter-gatherers including the Virgin Anasazi and the ancestors of the contemporary Paiute. Archaeological remains from the Southern Paiute and Anasazi are also found at Red Rock Spring. A dam and storage room built into the rock formations in historic times remain at Whitney Pocket.

There are several old mining sites of historic interest and value in the northern portion of the ACEC.

### Botanical Resources

The area supports a number of unusual botanical resources, including a small isolated stand of Douglas-fir in the Virgin Mountain area, unique in its location as the southern-most extension in Nevada and the only occurrence in Clark County, small isolated stands of white fir and ponderosa pine, and the only known occurrence of Arizona cypress in Nevada. The Virgin Mountains support a high diversity of botanical resources because of their location in the transition zone between the Great Basin, Mojave, and Sonoran desert biomes. The Virgin River supports the largest area of riparian habitat administered by the BLM in the planning area.

### Scenic Quality

The area contains a vast array of scenic values and contrasts including pinyon/juniper woodlands, exposed sandstone formations, rugged topography, and outstanding panoramas of the surrounding deserts and Lake Mead.

### Geologic Resources

Devil's Throat is a sinkhole approximately 165 feet deep and 100 feet in diameter; this formation possesses scientific value in that sinkholes are uncommon in desert environments. In addition, Devil's Throat has been designated as a Natural Hazard Area because of the danger it poses to the public.

**Acreage:** approximately 216,500 acres total.

Category I habitat- 77,000 acres

Category II habitat- 68,000 acres

1/2 mile of Devils throat-approximately 500 acres, within Category I tortoise habitat

Virgin River Anasazi Prehistoric District and Virgin River- 5,000 acres (approximately 196 acres of aquatic/riparian habitat)

Virgin Mountains (potential peregrine habitat)- 46,000 acres

20,500 acres other

**Resource constraints:**

**Lands:**

If available, acquire non-federal lands within Category I and II tortoise habitat and along the Virgin River.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:**

Virgin River Anasazi Prehistoric District, Virgin River floodplain, Virgin Mountain Natural Area, Whitney Pocket area, and within 1/2 mile of Devil's Throat: (approximately 12,700 acres)

Close to the operation of mining laws. A plan of operations is required on valid existing rights and impacts to ensure cultural resources will be mitigated.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

Tortoise habitat and Virgin Mountains, exclusive of the natural area: ( 203,800 acres)

Open to mining laws. Mitigation of impacts to desert tortoise habitat will be required during the plan of operation stage.

Close to mineral materials disposal.

Open to non-energy mineral leasing.



Open to fluid mineral leasing subject to minor constraints.

**Range Management:**

Close the Virgin River floodplains to livestock grazing. Water would be provided either through the use of water gaps or establishment of alternate sources.

Per Section 7 consultation for grazing.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions, except in the Virgin River and cultural sites, where no new roads would be allowed.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Forest and Woodlands Management:**

Prohibit the removal of live trees in the ACEC.

Prohibit the removal of dead or down firewood in the ACEC.

**Recreation/OHV:**

Virgin River floodplain and Virgin River Anasazi Prehistoric District are closed to all OHV use. One semi-developed recreational facility will be allowed within Category I and II tortoise habitat, Virgin River Anasazi Prehistoric District, Virgin River floodplain, and the Virgin Mountain Natural Area.

In the remainder of the area, OHV use will be limited to designated roads and trails.

Prohibit all competitive and non-competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

Fence and install interpretive signing at Devil's Throat.

Study the Virgin River for wild and scenic values.

Manage the area for semi-primitive motorized recreation opportunities including hiking, camping, hunting, horseback riding, interpretation, picnicking, photography, and nature study.

Develop one campground/picnic facility in the White Rock area and one semi-developed campground/day use facility in the vicinity of Gold Butte.

Manage the area for VRM Management Class II scenic values.

**Fire Management:**

Prohibit the use of heavy equipment (graders, bulldozers, front end loaders, etc.) to extinguish wild fires.

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations by reading the Gold Butte PSP every 4 to 5 years or as appropriate.

Revise the *Virgin River Habitat Management Plan* (USDI, BLM 1984) to include T&E objectives consistent with the *Virgin River Recovery Plan*, riparian objectives, waterfowl objectives, an analysis of the present situation and management prescriptions.

Prepare a tamarisk management plan that includes an analysis of potential management prescriptions.

Delineate the extent and characteristics of the Virgin River riparian zone, including tamarisk encroachment, in order to identify improvement potential.

Where available, acquire instream water rights.

Where available, acquire water rights to springs and manage as natural riparian systems.

Monitor water quality and bring into compliance with EPA standards.

Monitor for impacts to cultural sites from recreational uses or natural erosion.



## **6. ASH MEADOWS ACEC**

**Values:** Thirteen special status plant and animal species and essential habitat for a unique wetlands/meadow ecosystem.

**Acreage:** 37,078.3 acres of BLM land  
480.0 acres private inholdings  
37,078.3 acres total (pending withdrawal of 9,243 acres by USFWS)  
27,835.3 final total anticipated

### **Resource constraints:**

#### **Lands:**

Acquire private lands within the ACEC, but outside the refuge boundary, when such lands are available (approximately 500 acres).

Designate as a right-of-way avoidance area.

Include 9,243 acres of BLM inholdings in the Ash Meadows NWR in the ACEC, pending withdrawal by USFWS.

Transfer 9,243 acres of BLM inholdings within the Ash Meadows NWR boundary to the USFWS.

#### **Minerals:** (applies to entire ACEC- 37,078 acres)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

The following allotments will be closed to all livestock grazing:

Ash Meadows Allotment  
Carson Slough Allotment  
Grapevine-Rock Valley Allotment

#### **Wild Horse and Burro Management:**

Ash Meadows Herd Area will be managed for a population level of zero animals. Horses and burros will be removed as expeditiously as possible from Ash Meadows Herd Area.

#### **Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

**Recreation/OHV:**

Do not allow competitive OHV events. Other commercial permitted activities will not be allowed.

Casual OHV use will be limited to designated roads and trails.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage the ACEC consistent with the goals and objectives of the *Ash Meadows Recovery Plan*.

Develop a cooperative agreement with the USFWS for management of the Ash Meadows ACEC.

Prohibit BLM discretionary activities which would significantly decrease spring flow in Ash Meadows NWR/ACEC or result in negative impacts to threatened, endangered or candidate species.



## **7. BIG DUNE ACEC**

**Values:** Four candidate invertebrate species, three of which are endemic to the dunes.

**Acreage:** 1,000 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area.

#### **Minerals:** (applies to entire ACEC- 1,000 acres)

Open to the operation of the mining laws. Mitigation for impacts to candidate species will be required during the plan of operations stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to standard terms and conditions.

#### **Range Management:**

Amargosa Valley and Crater Flat will be closed to livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:** (includes Big Dune SRMA)

Allow no competitive OHV events. Other commercial permitted activities will be allowed on a case-by-case basis, consistent with BLM policy for managing habitats of candidate species. OHV use will be restricted to designated areas.

Prepare a Recreation Activity Management Plan for Big Dune SRMA concurrent with the ACEC management plan.

Sign the dunes with interpretive signs.

#### **Other:**

Manage consistent with BLM policy for managing habitats of special status species.

## **8. RIVER MOUNTAINS ACEC**

**Values:** Desert bighorn sheep, scenic viewshed for Boulder City and Henderson.

**Acreage:** 14,600 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area, except within the designated corridor.

Authorization of future communication site rights-of-way will be limited to the following:

Existing established communication sites.

No future communication site rights-of-way will be granted on any individual established communication site until a site management plan has been approved for that site.

Access will be by existing roads or helicopter only.

#### **Minerals:** (applies to entire ACEC-14,600 acres)

Open to the operation of the mining laws. A mining plan of operations will be required and impacts to desert bighorn sheep will be mitigated.

Open to fluid mineral leasing subject to seasonal constraints.

Closed from May 1 through September 30 within 2 miles of both existing and future big game water developments.

Open to non-energy mineral leasing.

Open to mineral material disposal.

#### **Range Management:**

Manage consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Bighorn Sheep on Public Lands* (USDI, BLM 1988b).

Livestock grazing will not be allowed on the River Mountains Allotment.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.



**Recreation/OHV:**

Motorized uses will be limited to designated roads and trails.

Do not allow competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988b). No recreation concession leases will be allowed.

## **9. AMARGOSA MESQUITE ACEC**

**Values:** Rare vegetative community and high value as wildlife habitat.

**Acreage:** 9,600 acres.

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area, except within the designated corridor.

#### **Minerals:**

Open to the operation of the mining laws. A mining plan of operations would be required.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to no surface occupancy and similar major constraints.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Forest and Woodlands Management:**

Monitor annually and allow limited firewood harvest, if it is consistent with the goals and objectives of the ACEC management plan. Strictly regulate firewood harvest by marking individual trees for harvest.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Manage primarily for wildlife values with firewood harvest as needed to meet wildlife goals and objectives.



## **10. HIDDEN VALLEY DISTRICT ACEC**

**Values:** Cultural Resources - This is a rock art, rockshelter, and camp site archeological district in the Muddy Mountains.

**Acreage:** 3,360 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 3,360 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Closed to all OHV use.

Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **11. STUMP SPRING PREHISTORIC/HISTORIC ACEC**

**Values:** Cultural Values - This is a complex of several food processing loci and campsites reflecting prehistoric mesquite collection practices and a spring stop on the *Old Spanish Trail/Mormon Road* historic trail.

**Acreage:** 560 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to the entire ACEC, 560 acres.)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Open to mineral material disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

No restrictions.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **12. SLOAN ROCK ART SITE ACEC**

**Values:** Cultural Resources - The shallow canyon contains a high concentration of prehistoric rock art. Several hundred petroglyph panels extend for more than one-half mile along the canyon walls.

**Acreage:** 320 acres

### **Resource constraints:**

#### **Lands:**

Designate the entire ACEC as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

### **13. CRESCENT MINING TOWNSITE ACEC**

**Values:** Cultural Resources - The remains of structural features and the artifacts from a short-lived, early 20th century mining town are present.

**Acreage:** 320 acres

**Resource constraints:**

**Lands:**

Rights-of-ways may be granted if determined appropriate, after complete environmental review and mitigation development, as needed. All ROWs granted in this area will be subject to standard terms and conditions for such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

**Range Management:**

Per Section 7 consultation.

**Roads and access:**

Do not allow new roads.

**Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

**Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



#### **14. RED ROCK CANYON ACEC**

**Values:** Outstanding scenic values including, a textbook example of a thrust fault, outstanding desert riparian habitats, a 3000 foot escarpment of sandstone, Pine Creek Research Natural Area, desert bighorn sheep, and desert tortoise habitat (Category II). Significant cultural resources include the Brownstone Canyon National Register Archaeological District, consisting of a rare pictograph rock art panel, shelters, roasting pits and two historic dams. Other prehistoric and historic cultural resource sites include Sandstone Quarry, Willow Spring, Lost Creek, and Red Spring. The area also includes *Angelica scabrida*, a Category I candidate species, and *Opuntia whipplei* var. *multigeniculata*, a Category I candidate species found on Blue Diamond Hill, just outside the current RRCNCA boundary.

**Acreage:** 83,100 acres.

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal inholdings where available by trade or purchase.

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 83,100 acres)

Close to mineral material disposal.

##### **Range Management:**

Close to livestock grazing.

##### **Roads and access:**

New roads will be allowed only in response to approved site plans and activity plans.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

##### **Forest and Woodlands Management:**

No disposal of native vegetation or woodland products.

##### **Recreation:**

Limit OHV use to designated roads and trails.

Do not allow competitive OHV permitted events in the ACEC. Other appropriate commercial or competitive activities will be allowed on a case-by case basis, consistent with the goals and objectives of the Recreation Activity Plan.

**Other:**

Manage Category II tortoise habitat consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).



## **15. GOLD BUTTE HISTORIC MINING TOWNSITE ACEC**

**Values:** Cultural Resources - This archaeological site consists of the remains of a small tent town from the first decade of the 20th century.

**Acreage:** 120 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC -120 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **16. KEYHOLE CANYON ROCK ART SITE ACEC**

**Values:** Cultural Resources - This fenced archaeological site contains numerous petroglyphs.

**Acreage:** 160 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 160 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **17. BIRD SPRING ARCHAEOLOGICAL SITE ACEC**

**Values:** Cultural Resources - This site consists of a large rockshelter with deep midden deposits. A preliminary test excavation in 1982 indicated that the site contains data important in the understanding of regional prehistory.

**Acreage:** 160 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to standard terms and conditions of such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 160 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range Management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **18. SUNRISE MOUNTAIN ACEC**

**Values:** Cultural Values - Gypsum Cave is located in the northeastern portion of the area and contains some of the earliest evidence of human occupation in southern Nevada.

Scenic Quality - Outstanding scenic values in the Rainbow Gardens area. Unique volcanic outcrops colored in red hues contrasting with black volcanics. Outstanding panoramas of the surrounding deserts and Lake Mead.

Botanical Values - Two special status plant species are located in the Sunrise Mountain area: *Arctomecon californica* (bearpoppy) and *Agave utahensis* var. *eborispina* (century plant).

Historic Mining - The historic Frenchman mine is located in the southwestern portion of the ACEC.

Wildlife Values - Desert bighorn sheep and desert tortoise reside throughout the Sunrise Mountain area.

Geologic Values - The Frenchman Mountain/Rainbow Gardens area is featured in many introductory geology textbooks and is visited each year by many geologists and students. The area is significant because it is an excellent example of crustal extension and contains extraordinary exposures of Paleozoic and Mesozoic strata. In addition, the area has been published in a guidebook to the 100 most significant and accessible geologic localities in the western U.S. and Canada by the Geologic Society of America.

**Acreage:** 31,400 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except for one designated corridor. Rights-of-way would be granted if determined appropriate after complete environmental review and the development of mitigation measures, as needed.

Designate one location for communication sites.

#### **Minerals:**

Close to fluid mineral leasing.

Close to the operation of the 1872 *Mining Law*.

Close to mineral material disposal.

Close to non-energy mineral leasing.

#### **Range Management:**

Not applicable.



**Roads and access:**

New roads would only be allowed if approved through an activity plan, plan of operation, or other use authorizations.

As funding and priorities permit, rehabilitate existing roads which become closed through the OHV designation process.

**Forest and Woodlands Management:**

Not applicable.

**Recreation/OHV:**

Manage the area for the following recreation opportunities: mountain bike riding, hiking, camping, horseback riding, interpretation, picnicking, photography, and nature study.

Limit motorized uses to designated roads and trails.

Prohibit competitive OHV events. Other non-OHV competitive and commercial permitted events and activities and recreation concession leases are appropriate.

Prepare a RAMP.

Determine an appropriate area for the development of a camping and picnicking facility.

Designate a Back Country Byway within the SRMA.

Prohibit recreational and target shooting within the SRMA. Legal hunting would be appropriate subject to NDOW regulations.

**Fire management:**

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.

## **ALTERNATIVE B**

**GOAL -** To provide maximum opportunities for land-based growth and development needs of the State of Nevada, while continuing to provide for multiple-use and sustained yield of the public lands.

### **AIR RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified in Alternative A.

### **SOILS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified in Alternative A.

### **WATER RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified in Alternative A.

### **VEGETATION MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified in Alternative A.

### **RIPARIAN MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified in Alternative A.

### **VISUAL RESOURCE MANAGEMENT (VRM)**

The objectives and management direction under this alternative would be the same as those identified in Alternative A.

### **FISH AND WILDLIFE HABITAT MANAGEMENT**

The objectives and management direction, unless specifically addressed below, would be the same as those identified in Alternative A.



## DESERT TORTOISE

### Objectives:

Maintain or improve habitat conditions on approximately 1,346,200 acres of Category I and II desert tortoise habitat within proposed ACECS to support current population levels of desert tortoises.

In all other desert tortoise habitat maintain existing habitat conditions to maintain desert tortoise populations at existing trend levels.

Continue management of the Desert Tortoise Conservation Center as a major desert tortoise research facility and expand the function of the Center to include an environmental education/awareness program in close cooperation with other Federal agencies and State and Local governments.

### Management Direction:

Designate approximately 1,346,200 acres of tortoise habitat as ACECs (see Map 2-21 and Table 2-12).

Minimize impacts to tortoise habitat during fire suppression by minimizing the use of mechanized equipment.

Allow reintroduction of wildlife species in Category I or II tortoise habitat only if such actions will not create conflicts with tortoise populations.

In cases of problem predation on tortoise populations, inventory predator populations and study their food habits and behaviors. Determine if predator control would help maintain viable tortoise populations. Control predator populations, where necessary, in conformance with the goals and objectives of the *Desert Tortoise Rangeland Plan* (USDI, BLM 1988).

Evaluate all BLM-authorized actions to determine if they encourage the proliferation or range expansion of tortoise predator populations. Seek alternative actions or mitigative measures which will minimize the increase or spread of predator populations.

Allow new water developments for wildlife, wild horses and burros, and livestock in Category I and II tortoise habitat only if such developments will not create conflicts with desert tortoise. If conflicts are created, mitigate the impacts to make the net effects positive or neutral to the desert tortoise.

Monitor tortoise populations, tortoise habitats, activity plans, pertinent decisions in land use plans, and compliance with relevant stipulations in records of decision to determine the effectiveness of the mitigation.

Monitor population study plots every 2 to 5 years.

Develop a monitoring program specifically for land use activities that adversely affect tortoise habitats. Use data from the monitoring program to analyze the cumulative impacts of land use decisions on tortoise habitats.

Incorporate the objectives and management actions of the *Desert Tortoise Rangeland Plan* (USDI, BLM 1988) into all appropriate activity plans.



**Table 2-12. Proposed tortoise ACECs- Alternative B.**

ACEC	CATEGORY I	CATEGORY II	CATEGORY III	OTHER	TOTAL
Piute Valley	46,000	75,000	0	33,000	254,000
Ivanpah Valley****	0	159,500	0	12,500	172,000
Pahrump***	0	121,000	0	57,000	178,000
Indian Springs	0	108,000	0	102,000	210,000
California Wash	0	62,000	0	0	62,000
Coyote Spring Valley	69,000	0	0	5,000	74,000
Virgin**	77,000	68,000	0	81,200	226,200
Mormon Mesa	72,000	86,000	0	12,000	170,000
<b>Totals</b>	<b>364,000</b>	<b>679,500</b>	<b>0</b>	<b>302,700</b>	<b>1,346,200</b>

\*\*Virgin ACEC also should include Virgin Mountains, Virgin River, and cultural sites.

\*\*\*Pahrump ACEC includes Stump Springs cultural site.

\*\*\*\*Ivanpah Valley ACEC includes Bird Spring cultural site.

Withdraw approximately 634 acres on and adjacent to the Desert Tortoise Conservation Center from all public land laws, and close the same to fluid mineral leasing, locatable minerals, non-energy leasables and mineral materials.

Within funding constraints, develop additional facilities where appropriate to further enhance the function of the Center as an environmental education/awareness and research facility.

## **FORESTRY MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **LIVESTOCK GRAZING MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.



## WILD HORSE AND BURRO MANAGEMENT

The objectives and management direction for this alternative would be the same as those identified under Alternative A.

## CULTURAL RESOURCE MANAGEMENT

The objectives and management direction for this alternative would be the same as those identified under Alternative A.

## LANDS MANAGEMENT

### Objectives:

Identify approximately 540,171 acres of public lands as available for disposal through sale, exchange, color-of-title or R&PP patent to provide for the orderly expansion and development of southern Nevada and for the public service needs of individual communities within the planning area.

### Management Direction:

Encourage local government and private individuals to purchase environmentally sensitive lands or lands rich in valuable resources. These lands could be exchanged for public lands, thus enhancing Federal land management.

Resolve unauthorized agricultural use or other unauthorized occupancy of the public lands by whatever applicable authority provides the greatest benefit to the public.

Do not allow disposal of public lands through *Indian Allotment*, *Desert Land Entry* or *The Carey Act* authorization.

Resolve unauthorized use of public lands, where appropriate and determined to be in the interest of the United States, by sale, exchange, color-of-title or R&PP patent.

### Disposal Areas:

The location of public lands available for disposal through Section 203 sales, exchange, color-of-title or R&PP patent, including the areas shown on Table 2-13, are identified on Map 2-22 (acres were calculated to scale with a planimeter and rounded to the nearest whole number).

Other lands currently available for disposal only through sale have been identified through special legislation. The location of legislative disposal areas are shown on Map 2-22, and include the following:

P.L. 99-548, Mesquite, Nevada Lands Transfer Plan - 2,898 acres

P.L. 101-67, Apex Project, *Nevada Land Transfer and Authorization Act* of 1989 - 16,867 acres

P.L. 85-339, *Eldorado Valley Act* Lands - 128,401 acres

P.L. 73, *Henderson Sale Area* - 188 acres



**Table 2-13. Land disposal areas - Alternative B.**

<u>Disposal Areas</u>	<u>Acres</u>
Amargosa Desert	43,652
Amargosa Flat/Crystal	17,945
Amargosa Valley	50,179
Dry Lake Valley	26,305
Highland Range	19,700
Goodsprings	800
Jean/Roach Lake	51,999
Las Vegas Valley*	99,391
Lathrop Wells	34,171
Laughlin	12,133
Mesquite	26,584
Moapa/Glendale	49,329
Nelson	3,126
Pahrump	78,318
Sandy	11,339
Searchlight	<u>15,200</u>
<b>Total</b>	<b>540,171</b>

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\*Disposal of the lands identified for sale within the Nellis ABC Wilderness Study Area may be considered only if those lands are dropped from further wilderness consideration.

P.L. 522, *Henderson Sale Area* - 80 acres

Upon termination of any of the aforementioned legislative withdrawals, any lands remaining in Federal ownership which meet the disposal criteria will be made available for disposal through the most appropriate authority.

#### Land Use Authorizations:

All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of ACECs, are available for land use leases and permits under Section 302 of FLPMA. Proposals will be handled in the following manner:

Land use lease or permit applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the public lands involved will be developed on a case-by-case basis through the SRA environmental review process.

Where appropriate and determined to be in the interest of the United States, unauthorized use of public lands may be resolved by authorization of land use leases or permits.



All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of ACECs, are available for airport leases under the authority of the Act of May 24, 1928, as amended. Proposals will be handled in the following manner:

Airport lease applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the public lands involved will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

#### Land Classifications/Segregations:

Valid Existing Management (see Appendix I)

Proposed Classifications/Segregations (see Appendix I)

#### Withdrawals:

Valid Existing Management (see Appendix I)

#### Proposed Withdrawals

Desert Tortoise Conservation Center (634 acres)

Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Bird Springs Archaeological Site ACEC (160 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Keyhole Canyon Rock Art Site ACEC (160 acres)

Pahrump Valley ACEC, Unit C (560 acres)

Red Rock Springs Archaeological Site ACEC (640 acres)

Sloan Rock Art Site ACEC (320 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Unit C (14,620 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of the trail centerline-36,000 acres)

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Traditional Lifeways Areas (31,000 acres)

## **NATURAL AREAS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **RECREATION MANAGEMENT**

### **Objective:**

Enhance a full spectrum of diverse recreation opportunities throughout the resource area.

### **Management Direction:**

Use the Recreation Opportunity Spectrum and the designation of Recreation Management Areas to facilitate recreation management.

Map 2-15 depicts the locations of the areas described below.

### Special Recreation Management Areas

The objectives and management direction for Special Recreation Management Areas would be the same as those identified under Alternative A.

### Extensive Recreation Management Areas

### Stateline Extensive Recreation Management Area (ERMA)

### **Objective:**

Manage 2,661,907 acres of the Stateline Extensive Recreation Management Area for dispersed and diverse recreation opportunities that meet the objectives of the Recreation Opportunity Spectrum inventory.

### **Management Direction:**

Maintain that portion of the utility corridor designated in the northern most region of the Las Vegas Valley, 1 mile in width and approximately 32 miles in length, for non-motorized road and trail events only. The portion of the corridor described above is located within the following legal description: T. 17 S., R. 58 E.,



secs. 14-18, 21-23, 25-27, 35, 36; T. 18 S., R. 58 E., sec. 1, 2, 12; T. 18 S., R. 59 E., secs. 6-8, 16-18, 20, 21, 28, 33; T. 19 S., R. 59 E., secs. 1-4; T. 19 S., R. 60 E., secs. 1-6; T. 19 S., R. 61 E., secs. 13-18, 24; T. 19 S., R. 62 E., secs. 12-15, 19-23; T. 19 S., R. 63 E., sec. 18.

Allow OHV competitive events only on designated corridors in the following areas:

Dry Lake Valley Area (one race per year).

Pahrump to Beatty Area (one race per year).

Mercury Area.

Highland Hills Area (the number of races and race management prescriptions to be determined through a race management plan).

Allow non-OHV competitive and commercial events and activities throughout the ERMA subject to conflict resolution.

Allow recreation concession leases that benefit the Recreation Opportunity Spectrum inventory management classes.

Prepare a RAMP for the ERMA.

Manage for a full spectrum of dispersed recreation opportunities throughout the ERMA.

Prohibit recreational and target shooting on public lands within the Las Vegas Valley. Legal hunting would be appropriate subject to NDOW regulations.

#### Off Highway Vehicle Designations

##### Objectives:

Designate 9,180 acres in the following areas and shown on Map 2-23, as open to motorized uses to provide for maximum opportunities for off-highway vehicle use.

Las Vegas/Nellis Dunes SRMA

Designate 2,136,029 acres as shown on Map 2-23, as limited to existing roads and trails to provide for a high level of off-highway vehicle use with a moderate level of protection for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and to protect other legitimate users of the public land.

Designate 1,513,728 acres in the following areas, and as shown on Map 2-23, as limited to designated roads and trails to provide for a moderate level of off-highway vehicle use with a high level of protection for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and to protect other legitimate users of the public land.

Amargosa Mesquite ACEC

Arrow Canyon Archaeological/Paleontological District ACEC

Ash Meadows ACEC

Big Dune ACEC (that portion shown on Map 2-23)

California Wash ACEC

Coyote Springs Valley ACEC  
Crescent Mining Town Site ACEC  
Gold Butte Historic Mining Town Site ACEC  
Indian Springs ACEC  
Ivanpah ACEC  
Mormon Mesa ACEC  
Old Spanish Trail/Mormon Road Trail  
Pahrump Valley ACEC  
Piute Valley ACEC  
Red Rock Canyon ACEC  
Red Rock Springs Archaeological Site ACEC  
River Mountains ACEC  
Sloan Rock Art Site ACEC  
Sunrise Mountain ACEC  
Virgin ACEC (that portion shown on Map 2-23)

Designate 12,190 acres in the following areas, and as shown on Map 2-23, as closed to motorized uses to provide a maximum level of protection for wildlife habitat, cultural resources, hydrological and soil resources, non-motorized recreation opportunities, and to protect other legitimate users of the public land.

Hidden Valley District ACEC  
Virgin ACEC (that portion shown on Map 2-23)

#### Cave Management

The objectives and management direction for this resource would be the same as those identified under Alternative A.

#### **WILD AND SCENIC RIVERS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

#### **RIGHTS-OF-WAY MANAGEMENT**

##### Objectives:

Meet public demand and reduce impacts to sensitive resources by providing an orderly system for transportation, communications, major utility transmission lines, and related facilities.

##### Management Direction:

#### Utility/Transportation Corridors

Retain the following designated corridors as valid existing management:

Numerous corridors established within the Apex sale area by P.L. 101-67, consisting of existing powerline rights-of-way ranging from 300 feet to 1800 feet in width, for a total length of approximately 32 miles.



That corridor established in Coyote Springs Valley through the Aerojet legislation being 1 mile wide and approximately 4 miles long.

Designate the following corridors:

A corridor for those lands presently under right-of-way reservation in the Moapa Indian Reservation Legislation, extending 1500 feet westerly of the right-of-way for the Reid Gardner-Pecos transmission lines through the area 1500 feet easterly of the right-of-way for the Navajo-McCullough transmission line, approximately 13 miles in length.

A corridor 2 miles in width and 2 miles in length passing through the Sunrise ISA; activation and use of this corridor is contingent upon Congressional action releasing the ISA from further wilderness consideration and study.

See Map 2-24 for the location of corridors designated in this alternative. An approximate total of 540,247 acres is involved, including legislative designations and the proposed Sunrise Mountain designation. The corridors range in width from 1 mile to 3 miles for a total length of approximately 590 miles.

Corridors not considered:

That corridor entering Nevada at Nipton Road and designated as Contingent Corridor W in the *California Desert Conservation Area Plan* (CDCAP), dated 1980, will not be carried forward in this alternative. The 1988 *East Mojave National Scenic Area Management Plan* recommended elimination of the corridor; elimination was accomplished by a plan amendment to the CDCAP.

Corridor Terms and Conditions:

No newly designated corridor will be over 3 miles in width. Within ACECs, newly designated corridors will be limited to 2 miles in width.

No rights-of-way will be authorized within corridors designated in WSAs or ISAs until Congress releases them from further wilderness consideration and study.

When determined feasible, and where compatible, major pipeline rights-of-way will be placed within powerline corridors.

If the Sunrise ISA is dropped from further consideration, the corridor running through that area will be limited to transmission lines 250kv and above.

Right-of-Way Avoidance Areas

The following areas, *exclusive of any designated corridors*, are designated as right-of-way avoidance areas. The BLM will discourage the location of rights-of-way within these areas. If technical, economic, or environmental concerns mandate right-of-way location in an avoidance area, special terms and conditions, as identified below, will be required.

All ACECs

Semi-private nonmotorized ROS areas

Significant caves (within 1/4 mile)

Wilderness Study Areas

Special terms and conditions:

No surface disturbance in Category I or II desert tortoise habitat from March 1 through October 31.

Facilities shall be placed underground whenever possible.

Similar types of utilities shall be co-located whenever possible and feasible.

All other special terms and conditions will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

#### Right-of-Way Exclusion Areas

Exclusion areas will be limited to the following in order to allow private property owners, state and local governments to obtain rights-of-way to meet public needs as communities continue to expand and develop.

No material site rights-of-way will be authorized within Category I desert tortoise habitat.

All other right-of-way applications received from private individuals, corporations, and state and local governments will be addressed on a case-by-case basis.

#### Areal Rights-of-Way

See Map 2-7 for the location of existing established communication sites that will be carried forward in this alternative.

Management direction under this alternative would be the same as that identified for Alternative A.

#### Trespass Resolution

Management direction under this alternative would be the same as that identified for Alternative A.

### **WILDERNESS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **MINERALS MANAGEMENT**

Objectives:

Provide for orderly exploration and development of minerals on Federally owned mineral estate whether or not the surface estate is in Federal ownership.



Management Direction:

Allow fluid mineral leasing subject to standard terms and conditions on 1,833,000 acres.

Allow fluid mineral leasing subject to seasonal and other minor constraints on 1,699,620 acres.

Allow fluid mineral leasing subject to no surface occupancy and similar major constraints on 296,362 acres.

Do not allow fluid mineral leasing on 856,108 acres.

Allow locatable mineral activity to occur on 3,158,567 acres.

Do not allow locatable mineral activity on 1,482,366 acres.

Allow salable mineral disposal on 2,561,798 acres.

Do not allow salable mineral disposal on 2,080,130 acres.

Allow solid mineral leasing on 3,522,205 acres.

Do not allow solid mineral leasing on 1,142,870 acres.

Renew existing sand and gravel leases, subject to surface owner consent.

Deny existing sand and gravel lease applications.

See Maps 2-25 (a-d) for the locations of the mineral management areas described below.

Fluid Minerals (4,685,090 acres)

Areas open subject to standard terms and conditions (1,833,000 acres)

All of the remainder of the Stateline Resource Area, except those areas closed to leasing, those areas open to leasing subject to no surface occupancy and other similar major constraints, and those areas open to leasing subject to seasonal and other minor constraints (1,833,000 acres).

Areas open subject to seasonal or other minor constraints (1,699,620 acres)

Bighorn sheep habitat (closed from May 1 through September 30) (774,300 acres)

California Wash ACEC (closed from March 1 through October 31) (62,000 acres)

Indian Springs ACEC (closed from March 1 through October 31) (210,000 acres)

Ivanpah ACEC, Unit B (closed from March 1 through October 31) (171,840 acres)

Mormon Mesa ACEC, Unit B (closed from March 1 through October 31) (98,000 acres)

Pahrump Valley ACEC, Unit B (closed from March 1 through October 31) (177,440 acres)

Piute Valley ACEC, Unit B (closed from March 1 through October 31) (107,840 acres)

Virgin ACEC, Unit B (closed from March 1 through October 31) (98,200 acres)

Areas open subject to no surface occupancy and similar major constraints (296,362 acres)

Amargosa Mesquite ACEC (no surface occupancy) (9,600 acres)

Big Dune ACEC (no surface occupancy) (1,000 acres)

Desert Tortoise Conservation Center (no surface occupancy) (634 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (no surface occupancy) (3,025 acres)

Significant caves and karst resources (surface occupancy within 1/4 mile) (3,200 acres)

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (helicopter access only) (276,570 acres)

Areas closed to leasing (856,108 acres)

Valid Existing Closures (216,746 acres)

Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)

Ash Meadows ACEC (37,078 acres)

Coyote Springs Valley ACEC (74,000 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Ivanpah ACEC, Unit C (160 acres)

Mormon Mesa ACEC, Unit A (72,000 acres)

Pahrump Valley ACEC, Unit C (560 acres)

Piute Valley ACEC, Units A & C (146,160 acres)

Red Rock Springs Archaeological Site ACEC (640 acres)

Sloan Rock Art Site ACEC (320 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Units A & C (91,620 acres)



Las Vegas and Laughlin land disposal areas (111,524 acres)

Springs and associated riparian zones (no surface occupancy within 1/4 mile) (2,333 acres)

Traditional Lifeways Areas (31,000 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of the trail centerline-36,000 acres).

Locatable Minerals (4,640,933 acres)

Areas open to the operation of the mining laws (3,158,567 acres)

ACECs open to the operation of the mining laws (1,354,900 acres)

Amargosa Mesquite ACEC (9,600 acres)

California Wash ACEC (62,000 acres)

Coyote Springs Valley ACEC (74,000 acres)

Indian Springs ACEC (210,000 acres)

Ivanpah ACEC, Unit B (171,840 acres)

Mormon Mesa ACEC (170,000 acres)

Pahrump Valley ACEC, Unit B (177,440 acres)

Piute Valley ACEC, Units A & B (253,840 acres)

River Mountains ACEC (14,600 acres)

Virgin ACEC, Units A, B, & D (211,580 acres)

All of the remainder of Stateline Resource Area, except those areas closed to the operation of the mining laws (1,803,667 acres)

Areas closed to the operation of the mining laws subject to valid existing rights (1,482,366 acres)

Valid Existing Closures (432,087 acres)

Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Ivanpah ACEC, Unit C (160 acres)

Pahrump Valley ACEC, Unit C (560 acres)

Piute Valley ACEC, Unit C (160 acres)

Red Rock Springs Archaeological Site ACEC (640 acres)

Sloan Rock Art Site ACEC (320 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Unit C (14,620 acres)

Desert Tortoise Conservation Center (634 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres).

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas land disposal areas (99,391 acres)

Laughlin land disposal area (12,133 acres)

Traditional Lifeways Areas (31,000 acres)

Las Vegas mineral materials disposal areas (493,155 acres)

Mineral Materials (4,641,928 acres)

Areas open to mineral materials disposal and authorization/renewal of material site rights-of-way (2,561,584 acres):

All of Stateline Resource Area, except those areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (2,561,798 acres)

Areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (2,080,130 acres):

Valid Existing Closures (145,586 acres)

Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)



Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

California Wash ACEC (62,000 acres)

Coyote Springs Valley ACEC (74,000 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Indian Springs ACEC (210,000 acres)

Ivanpah ACEC (171,840 acres)

Mormon Mesa ACEC (170,000 acres)

Pahrump Valley ACEC (178,000 acres)

Piute Valley ACEC (254,000 acres)

Red Rock Canyon ACEC (83,100 acres)

Red Rock Springs Archaeological Site ACEC (640 acres)

Sloan Rock Art Site ACEC (320 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Units A, B, & C (189,820 acres)

Desert Tortoise Conservation Center (634 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres)

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas and Laughlin land disposal areas (111,524 acres)

Traditional Lifeways Areas (31,000 acres)

Non-Energy Leasable Minerals (4,665,075 acres)

Areas open to non-energy mineral activities (3,522,205 acres):

All of Stateline Resource Area, except those areas closed to non-energy mineral activities (3,522,205 acres)

Areas closed to non-energy mineral activities (1,142,870 acres):

Valid Existing Closures (216,746 acres)

Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Coyote Springs Valley ACEC (74,000 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Ivanpah ACEC, Unit C (160 acres)

Mormon Mesa ACEC, Unit A (72,000 acres)

Pahrump Valley ACEC, Unit C (560 acres)

Plute Valley ACEC, Units A & C (146,160 acres)

Red Rock Springs Archaeological Site ACEC (640 acres)

Sloan Rock Art Site ACEC (320 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Units A & C (91,620 acres)

Desert Tortoise Conservation Center (634 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres)



Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas and Laughlin land disposal areas (111,524 acres)

Traditional Lifeways Areas (31,000 acres)

## **ACQUISITIONS MANAGEMENT**

### **Objectives:**

To secure on-the-ground access to otherwise inaccessible public lands.

To acquire private lands that enhance the management of adjacent BLM lands and the protection of sensitive or valuable resources.

### **Management Direction:**

#### **Access Needs**

Obtain an easement on or across the Pabco Tram Road.

#### **Land Acquisition Needs**

Where the lands are available and the current owner is willing, the BLM will attempt to acquire these lands: (a pool of approximately 9,049 acres)

All private lands within designated ACECs (includes Red Rock Canyon National Conservation Area) - (approximately 8,634 acres).

All private lands within the Ash Meadows ACEC but, outside of the refuge boundary - (approximately 415 acres).

All private lands along the Virgin River south of Riverside, including acreage outside the Virgin ACEC.

## **FIRE MANAGEMENT**

The objectives and management direction under this alternative are the same as those identified for Alternative A.

## **SPECIAL MANAGEMENT AREAS**

Map 2-21 shows the locations of the ACECs described below. Total acreage of proposed ACECs is approximately 1,530,838 acres in 20 areas.

### **1. PIUTE VALLEY ACEC**

**Values:** Category I and II desert tortoise habitat, teddy bear cholla (*Opuntia biglovii*)

**Acreage:** 254,000 acres

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal lands where available within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:**

#### **Keyhole Canyon Archeological Site (Piute Valley ACEC, Unit C)**

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources and desert tortoise and its habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Category I tortoise habitat (Piute Valley ACEC, Unit A)**

Open to the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.



**Category II tortoise habitat (Piute Valley ACEC, Unit B)**

Open to the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and habitat.

Close to mineral materials disposal, except sand and gravel.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints.

Closed from March 1 through October 31.

**Range management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:** (includes part of Christmas Tree Pass SRMA)

Limit motorized uses to designated roads and trails.

Prohibit all OHV competitive events. Non-OHV competitive and commercial events and activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No developed recreational facilities will be allowed in Category I tortoise habitat.

No recreation concession leases will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Piute Valley and Christmas Tree Pass population study plots (PSP) every 4 to 5 years or as appropriate.

## 2. IVANPAH ACEC

**Values:** Category II desert tortoise habitat, Category I candidate plant species (*Opuntia whipplei* var. *multigeniculata*), and cultural resources. Bird Spring site includes a rockshelter, with a deep midden which contains data that can increase the understanding of region prehistory.

**Acreage:** 172,000 acres

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:**

Category II tortoise habitat (approximately 171,840 acres) (Ivanpah ACEC, Unit B)

Open to the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and habitat.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints.

No surface occupancy from March 1 through October 31.

Bird Spring Site (approximately 160 acres) (Ivanpah ACEC, Unit C)

A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to the operations of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.



**Range management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

Do not allow new roads in the Bird Springs archeological site.

**Recreation/OHV: (includes a portion of Jean/Roach Dry Lakes SRMA)**

Limit motorized uses to designated roads and trails.

Do not allow OHV permitted events in the ACEC. Other appropriate commercial permitted activities allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the ESA.

Monitor tortoise populations in the ACEC by reading the Sheep Mountain PSP once every 4 to 5 years or as appropriate.

Monitor for impacts to cultural sites from recreational uses or natural erosion.

Survey for and monitor populations of *Opuntia whipplei* var. *multigeniculata*.

### **3. PAHRUMP VALLEY ACEC**

**Values:** Category II desert tortoise habitat and Stump Spring prehistoric/historic site. The Stump Spring site is a complex consisting of several food processing loci and campsites reflecting prehistoric mesquite collection practices. It was also a spring stop on the historic *Old Spanish Trail/Mormon Road*.

**Acreage:** 178,000 acres

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:**

Category II tortoise habitat (approximately 177,440 acres) (Pahrump Valley ACEC, Unit A)

Open to the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints

Closed from March 1 through October 31.

Stump Spring (approximately 560 acres) (Pahrump Valley ACEC, Unit C)

A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to the operations of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.



**Range management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

No new roads will be allowed for the Stump Spring site and Old Spanish Trail/Mormon Road (36,560 acres).

**Recreation/OHV:**

Limit casual OHV use to designated roads and trails.

Do not allow competitive OHV events. Other appropriate non-OHV competitive and commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in Pahrump Valley by reading the Trout Canyon PSP once every 4 to 5 years or as appropriate.

Monitor for impacts to the sites from recreational uses or natural erosion.

#### **4. INDIAN SPRINGS ACEC**

**Values:** Desert tortoise habitat (Category II and III)

**Acreage:** 210,000 acres

**Resource constraints:**

**Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 210,000 acres)

Open to the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and habitat.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints.

Closed from March 1 through October 31.

**Range management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:** (includes part of Desert View SRMA)

Limit motorized uses to designated roads and trails.

Prohibit all OHV competitive events. Other appropriate non-OHV competitive and commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.



Allow recreation concession leases within Desert View SRMA.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by establishing a population study plot and reading the plot once every 4 to 5 years or as appropriate.

## **5. COYOTE SPRINGS VALLEY ACEC**

**Values:** Category I desert tortoise habitat.

**Acreage:** 74,000 acres

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category I tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 74,000 acres)

Open to the operation of the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

#### **Recreation/OHV:**

Casual OHV use would be limited to designated roads and trails.

Prohibit all OHV competitive events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.



**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Coyote Springs PSP once every 4 to 5 years or as appropriate.

## **6. MORMON MESA ACEC**

**Values:** Category I and II desert tortoise habitat.

**Acreage:** 170,000 acres.

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:**

In Category I habitat: (approximately 72,000 acres) (Mormon Mesa ACEC, Unit A)

Open to the operation of the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and tortoise habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

In Category II habitat: (98,000 acres) (Mormon Mesa ACEC, Unit B)

Open to the mining laws. A plan of operations is required to mitigate impacts to desert tortoise.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints.

Closed from March 1 through October 31.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.



As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:**

Casual OHV use would be limited to designated roads and trails.

Prohibit all OHV competitive events. Other appropriate non-OHV competitive and commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases would be allowed.

No developed recreational facilities would be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Mormon Mesa PSP once every 4 to 5 years or as appropriate.

## 7. VIRGIN ACEC

### Values: Threatened and Endangered Species

Category I and II desert tortoise habitat

Two endangered fish (woundfin and Virgin River roundtail chub)

Potential peregrine falcon habitat

### Other Wildlife Habitat

The diversity of botanical resources in the area results in a high diversity of all wildlife species. The Virgin Mountains provide habitat for desert bighorn and mule deer, and the Virgin River provides waterfowl habitat.

### Cultural and Historic Resources

The Virgin River Anasazi Prehistoric District is a series of pueblos and pit structures situated on terraces that overlook the river. These structures were constructed by the Virgin Anasazi who farmed the floodplain from about A.D. 500 to 1150.

The area also contains numerous shelter caves and agave roasting pits used by aboriginal hunter-gatherers including the Virgin Anasazi and the ancestors of the contemporary Paiute. A dam and storage room built into the rock formations in historic times remain at Whitney Pocket.

There are several old mining sites of historic interest and value in the northern portion of the ACEC.

### Botanical Resources

The area supports a number of unusual botanical resources, including a small isolated stand of Douglas fir in the Virgin Mountain area, unique in its location as the southern-most extension in Nevada and the only occurrence in Clark County. Small, isolated stands of white fir and ponderosa pine and the only known occurrence of Arizona cypress in Nevada are also found in the area. The Virgin Mountains contain a high diversity of botanical resources because of their location in the transition zone between the Great Basin, Mojave, and Sonoran desert biomes. The Virgin River supports the largest area of riparian habitat administered by the BLM in the planning area.

### Scenic Quality

The area contains a vast array of scenic values and contrasts including pinyon/juniper woodlands, exposed sandstone formations, rugged topography, and outstanding panoramas of the surrounding deserts and Lake Mead.

### Geologic Resources

Devil's Throat is a sinkhole, approximately 165 feet deep and 100 feet in diameter. This formation possesses scientific value from the standpoint that sinkholes are uncommon in desert environments. Devil's Throat has been designated as a Natural Hazard Area because of the danger it poses to the public.



**Acreage:** Approximately 226,200 acres total

Category I habitat-77,000 acres

Category II habitat-68,000 acres

1/2 mile of Devil's Throat-approximately 500 acres, within Category I tortoise habitat

Virgin River Anasazi Prehistoric District and Virgin River-5,000 acres

Virgin Mountains-46,000 acres

30,200 acres other (will be treated as Category II tortoise habitat for management purposes)

**Resource constraints:**

**Lands:**

If available, acquire non-federal lands within Category I and II tortoise habitat and along the Virgin River.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

Designate one additional location within the area for communication sites.

**Minerals:**

Virgin River Anasazi Prehistoric District, Virgin River floodplain, Virgin Mountain Natural Area, Whitney Pocket area, and within 1/2 mile of Devil's Throat: (approximately 14,620 acres) (Virgin ACEC, Unit C)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

Category I tortoise habitat: (approximately 77,000 acres) (Virgin ACEC, Unit A)

Open to the 1872 *Mining Law*. A plan of operations would be required to mitigate impacts to desert tortoise. Except for approximately 500 acres around Devil's Throat.

Closed to mineral materials disposal.

Closed to non-energy leasables.

Closed to fluid mineral leasing.

**Category II tortoise habitat: (approximately 98,200 acres) (Virgin ACEC, Unit B)**

Open to the 1872 *Mining Law*. A plan of operations would be required to mitigate impacts to desert tortoise.

Close to mineral materials disposal.

Open to non-energy leasables.

Open to fluid mineral leasing, subject to seasonal and other minor constraints.

Closed March 1 through October 31.

**Remainder of area: (36,380 acres) (Virgin ACEC, Unit D)**

Open to the mining laws. A plan of operations is required to mitigate impacts to desert tortoise.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints in Category II habitat.

No surface occupancy from March 1 through October 31.

Open to fluid mineral leasing subject to standard stipulations in the remainder of the area.

**Range management:**

Close the Virgin River floodplain to livestock grazing. Water would be provided either through the use of water gaps or establishment of alternate sources.

Conduct livestock grazing per Section 7 consultation.

**Roads and access:**

In Category I habitat, Virgin River Anasazi Prehistoric District, Virgin River floodplain, and Virgin Mountain Natural Area, allow new roads only on a temporary basis in response to specific permitted actions.

In the remainder of the area, allow new roads only if approved through an activity plan, plan of operations, or range use authorizations.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Forest and woodlands management:**

Do not allow removal of live trees or woodland products from the area.



**Recreation/OHV:**

Virgin River floodplain and Virgin River Anasazi Prehistoric District are closed to all OHV use.

In the remainder of the area, casual OHV use will be limited to designated roads and trails.

Prohibit all competitive and non-competitive OHV events in the area. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed within Category I and II tortoise habitat, Virgin River Anasazi Prehistoric District, Virgin River floodplain, and the Virgin Mountain Natural Area.

Fence and install interpretive signing at Devil's Throat.

Study the Virgin River for wild and scenic values.

Manage the area for semi-primitive motorized recreation opportunities including hiking, camping, hunting, horseback riding, interpretation, picnicking, photography, and nature study.

Develop one campground/picnic facility in the White Rock area.

Manage the area for VRM Management Class II scenic values.

**Fire management:**

Prohibit the use of heavy equipment (graders, bulldozers, front end loaders, etc.) to extinguish wild fires.

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations by reading the Gold Butte PSP every 4 to 5 years or as appropriate.

Revise the *Virgin River Habitat Management Plan* (USDI, BLM 1984) to include T&E objectives consistent with the *Virgin River Recovery Plan*, riparian objectives, waterfowl objectives, an analysis of the present situation and management prescriptions.

Prepare a tamarisk management plan that includes an analysis of potential management prescriptions.

Delineate the extent and characteristics of the Virgin River riparian zone, including tamarisk encroachment, in order to identify improvement potential.

Where available, acquire instream water rights.

Where available, acquire water rights to springs and manage as natural riparian systems.

Monitor water quality and bring into compliance with EPA standards.

Monitor for impacts to cultural sites from recreational uses or natural erosion.



## **8. CALIFORNIA WASH ACEC**

**Values:** Category II desert tortoise habitat

**Acreage:** 62,000 acres

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC-62,000 acres)

Open to the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and habitat.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to seasonal or other minor constraints

No surface occupancy from March 1 through October 31.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted activities.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:**

With the exception of the Nissan 400, no competitive or non-competitive OHV events will be allowed. The Nissan 400 will be allowed on a designated course which will not change, with only one event allowed per year. Other appropriate non-OHV competitive and commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

Casual OHV use will be limited to designated roads and trails.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by establishing a population study plot and reading the PSP every 4 to 5 years or as appropriate.



## **9. ASH MEADOWS ACEC**

**Values:** Thirteen special status plant and animal species and essential habitat for a unique wetlands/meadow ecosystem.

**Acreage:** 37,078.3 acres of Bureau land  
480.0 acres private inholdings  
37,078.3 acres total (pending withdrawal of 9,243 acres by USFWS)  
27,835.3 final total anticipated

### **Resource constraints:**

#### **Lands:**

Acquire private lands within the ACEC, but outside the refuge boundary, when such lands are available (approximately 500 acres).

Designate as a right-of-way avoidance area.

Include 9,243 acres of BLM inholdings in the Ash Meadows NWR in the ACEC, pending withdrawal by USFWS.

Transfer 9,243 acres of BLM inholdings within the Ash Meadows NWR boundary to the USFWS.

#### **Minerals:** (applies to entire ACEC)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

The following allotments will be closed to all livestock grazing:

Ash Meadows allotment  
Carson Slough allotment  
Grapevine-Rock Valley allotment

#### **Wild Horse and Burro management:**

Amargosa Herd Area will be managed for a population level of zero animals. Horses and burros will be removed as expeditiously as possible from Ash Meadows NWR and ACEC.

#### **Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

**Recreation/OHV:**

Do not allow competitive OHV events. Other commercial permitted activities will not be allowed.

Casual OHV use will be limited to designated roads and trails.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage the ACEC consistent with the goals and objectives of the Ash Meadows Recovery Plan.

Develop a cooperative agreement with the USFWS for management of the Ash Meadows ACEC.

Prohibit BLM authorized activities which would significantly decrease spring flows in Ash Meadows NWR/ACEC or would result in negative impacts to threatened, endangered or candidate species.



## **10. BIG DUNE ACEC**

**Values:** Four candidate invertebrate species, three of which are endemic to the dunes.

**Acreage:** 1,000 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area.

#### **Minerals:** (applies to entire ACEC)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Open to fluid mineral leasing subject to no surface occupancy.

#### **Range management:**

Amargosa Valley and Crater Flat will be closed to livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:** (includes Big Dune SRMA)

Limit casual OHV use to designated roads, trails and areas.

Prohibit all OHV and non-OHV competitive events. Commercial activities outside of habitat protecting the candidate species will be allowed on a case-by-case basis, consistent with Bureau policy for managing habitats of candidate species.

Prepare a Recreation Activity Management Plan for Big Dune SRMA concurrent with the ACEC management plan.

Sign the closed portion of the dunes, including interpretive signs.

#### **Other:**

Manage consistent with BLM policy for managing habitats of special status species.

## **11. RIVER MOUNTAINS ACEC**

**Values:** Desert bighorn sheep, scenic viewshed for Boulder City and Henderson.

**Acreage:** 14,600 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area, except within the designated corridor.

Authorization of future communication site rights-of-way will be limited to the following:

Existing established communication sites.

No future communication site rights-of-way will be granted on any individual established communication site until a site management plan has been approved for that site.

Access will be by existing roads or helicopter only.

#### **Minerals:**

Open to the operation of the mining laws. A mining plan of operations will be required and impacts to desert bighorn sheep will be mitigated.

Open to fluid mineral leasing subject to seasonal constraints.

Closed from May 1 through September 30 within 2 miles of both existing and future big game water developments.

Open to non-energy mineral leasing.

Open to mineral material disposal.

#### **Range management:**

Manage consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on the Public Lands* (USDI, BLM 1984).

Livestock grazing will not be allowed on the River Mountains Allotment.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.



**Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

Do not allow competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on the Public Lands* (USDI, BLM 1984).

No recreation concession leases will be allowed.

## **12. AMARGOSA MESQUITE ACEC**

**Values:** Rare vegetative community and high value as wildlife habitat.

**Acreage:** 9,600 acres.

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area, except within the designated corridor.

#### **Minerals:**

Open to the operation of the mining laws. A mining plan of operations would be required.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to no surface occupancy and similar major constraints.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Forest and woodlands management:**

Monitor annually and allow limited firewood harvest if it is consistent with the goals and objectives of the ACEC management plan and in conformance woodlands management plan. Strictly regulate firewood harvest by marking individual trees for harvest.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.



**Other:**

Manage primarily for wildlife values with firewood harvest as needed to meet wildlife goals and objectives.

Inventory and monitor phainopepla populations in the ACEC.

### **13. HIDDEN VALLEY DISTRICT ACEC**

**Values:** Cultural Resources - This area contains a rock art, rockshelter, and camp site archeological district in the Muddy Mountains.

**Acreage:** 3,360 acres

**Resource constraints:**

**Lands:**

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 3,360 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

**Range management:**

No restrictions

**Roads and access:**

Do not allow new roads.

**Recreation/OHV:**

Closed to all OHV use.

Other commercial permitted activities will be allowed on a case-by-case basis.

**Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



#### **14. SLOAN ROCK ART SITE ACEC**

**Values:** Cultural Resources - This shallow canyon contains a high concentration of rock art, with several hundred petroglyph panels distributed along more than a 1/2 mile length of the canyon's walls.

**Acreage:** 320 acres

#### **Resource constraints:**

##### **Lands:**

Designate the entire ACEC as a right-of-way avoidance area. If technological or environmental constraints mandate the authorization of rights-of-way in this area, rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions.

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

##### **Range management:**

Per Section 7 consultation.

##### **Roads and access:**

Do not allow new roads.

##### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

##### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **15. CRESCENT MINING TOWNSITE ACEC**

**Values:** Cultural Resources - The remains of structural features and the artifacts from a short-lived, early 20th century mining town are present.

**Acreage:** 320 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **16. RED ROCK CANYON ACEC**

**Values:** Outstanding scenic values including, a textbook example of a thrust fault, outstanding desert riparian habitats, a 3000 foot escarpment of sandstone, Pine Creek Research Natural Area, desert bighorn sheep, and desert tortoise habitat (Category II). Significant cultural resources include the Brownstone Canyon National Register Archaeological District, consisting of a rare pictograph rock art panel, shelters, roasting pits and two historic dams. Other prehistoric and historic cultural resource sites include Sandstone Quarry, Willow Spring, Lost Creek and Red Spring. The area also includes *Angelica scabrida*, a Category I candidate species, and *Opuntia whipplei* var. *multigeniculata*, a Category I candidate species found on Blue Diamond Hill, just outside the current RRCNCA boundary.

**Acreage:** 83,100 acres.

### **Resource constraints:**

#### **Lands:**

Acquire non-federal inholdings where available by trade or purchase.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 83,100 acres)

Close to mineral material disposal.

#### **Range management:**

Close to livestock grazing.

#### **Roads and access:**

New roads will be allowed only in response to approved site plans and activity plans.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Forest and woodlands management:**

No disposal of native vegetation or woodland products.

#### **Recreation/OHV:**

Limit OHV use to designated roads and trails.

Do not allow competitive OHV permitted events in the ACEC. Other appropriate commercial or competitive activities will be allowed on a case-by case basis, consistent with the goals and objectives of the Recreation Activity Plan.



## **17. ARROW CANYON ARCHAEOLOGICAL/PALEONTOLOGICAL DISTRICT ACEC**

**Values:** Cultural Resources - The archaeological portion of the district consists of hundreds of rock art panels along the canyon walls. The paleontological values contain the embedded tracks of extinct birds.

**Acreage:** 3,100 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 3,100 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

No restrictions

#### **Cultural/Paleontological:**

A plan for specimen recovery at the Bird Tracks Area will be required for any Federal actions.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **18. GOLD BUTTE HISTORIC MINING TOWNSITE ACEC**

**Values:** Cultural Resources - This archaeological site consists of the remains of a small tent town from the first decade of the 20th century.

**Acreage:** 120 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 120 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **19. RED ROCK SPRING ARCHAEOLOGICAL SITE ACEC**

**Values:** Cultural Resources - This archaeological site consists of a rock art locus.

**Acreage:** 640 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate, and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 640 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Forest and woodlands management:**

Not applicable

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## 20. SUNRISE MOUNTAIN ACEC

**Values:** Cultural Values - Gypsum Cave is located in the northeastern portion of the area and contains some of the earliest evidence of human occupation in Nevada.

Scenic Quality - Outstanding scenic values in the Rainbow Gardens area. Unique volcanic outcrops colored in red hues contrasting with black volcanics. Outstanding panoramas of the surrounding deserts and Lake Mead.

Botanical Values - Two special status plant species are located in the Sunrise Mountain area: *Arctomecon californica* (bearpoppy) and *Agave utahensis* var. *eborispina* (century plant).

Historic Mining - The historic Frenchman mine is located in the southwestern portion of the ACEC.

Wildlife Values - Desert bighorn sheep and desert tortoise reside throughout the Sunrise Mountain area.

Geologic Values - The Frenchman Mountain/Rainbow Gardens area is featured in many introductory geology textbooks and is visited each year by many geologists and students. The area is significant because it is an excellent example of crustal extension and contains extraordinary exposures of Paleozoic and Mesozoic strata. In addition, the area has been published in a guidebook to the 100 most significant and accessible geologic localities in the western U.S. and Canada by the Geologic Society of America.

**Acreage:** 31,400 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except for one designated corridor.

Designate one location for communication sites.

#### **Minerals:**

Close to fluid mineral leasing.

Close to the operation of the mining laws.

Close to mineral material disposal.

Close to non-energy mineral leasing.

#### **Roads and access:**

New roads would only be allowed if approved through an activity plan, plan of operations, or other use authorizations.



As funding and priorities permit, rehabilitate existing roads which become closed through the OHV designation process.

**Recreation/OHV:**

Manage the area for the following recreation opportunities: mountain bike riding, hiking, camping, horseback riding, interpretation, picnicking, photography, and nature study.

Limit motorized uses to designated roads and trails.

Prohibit competitive OHV events. Other non-OHV competitive and commercial permitted events and activities and recreation concession leases are appropriate.

Prepare a RAMP.

Determine an appropriate area for the development of a camping and picnicking facility.

Designate a Back Country Byway within the SRMA.

Prohibit recreational and target shooting within the SRMA. Legal hunting would be appropriate subject to NDOW regulations.

**Fire management:**

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.

## **ALTERNATIVE C**

**GOAL -** To provide for management of the public lands on an ecosystem basis, with an emphasis on biodiversity, non-consumptive uses, and the protection and recovery of the desert tortoise in accordance with the Clark County Habitat Conservation Plan (in preparation).

### **AIR RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **SOILS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **WATER RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **VEGETATION MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **RIPARIAN MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **VISUAL RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **FISH AND WILDLIFE HABITAT MANAGEMENT**

The objectives and management direction, unless specifically addressed below, would be the same as those identified in Alternative A.



## DESERT TORTOISE

### Objectives:

Manage approximately 1,356,680 acres of desert tortoise habitat on an ecosystem approach with emphasis on achieving maximum biodiversity and viable desert tortoise populations. Take appropriate management actions to ensure that full ecological potential is achieved and viable desert tortoise populations of sufficient size and resilience to withstand the most severe environmental impacts will be maintained. At the very least, tortoise populations should consist of appropriate age classes and sex ratios with adequate recruitment to maintain a 50 percent probability of sustaining viable populations for 500 years as defined in the U.S. Fish and Wildlife Service's Recovery Plan.

In tortoise habitat outside of ACECs, manage 1,653,644 acres of tortoise habitat at mid to late seral stage to maintain current population trends.

Continue management of the Desert Tortoise Conservation Center as a major desert tortoise research facility and expand the function of the center to include an environmental education/awareness program in close coordination with other Federal agencies and State and local governments.

### Management Direction:

Designate approximately 1,356,680 acres, as tortoise ACECs (ACECs are based upon TMAs developed through the Clark County Habitat Conservation Plan). (See Map 2-26 and Table 2-14).

Minimize impacts to tortoise habitat during fire suppression by minimizing the use of mechanized equipment.

Allow reintroduction of wildlife species in ACECs only if such actions will not create conflicts with tortoise populations.

Where tortoise predator problems are suspected, inventory predator populations (including the common raven). Study their food habits and behaviors to determine if predator control would help in maintaining viable tortoise populations. Control predator populations, where needed, in conformance with the goals and objectives of the *Desert Tortoise Rangeland Plan* (USDI, BLM 1988).

Evaluate all BLM-authorized actions to determine if they encourage the proliferation or range expansion of tortoise predator populations. Seek alternative actions or mitigative measures which will minimize the increase or spread of predator populations.

Allow new water developments for wildlife and wild horses and burros in TMA/ACECs only if such developments will not create conflicts with desert tortoise. If conflicts are created, mitigate those conflicts to make the net effects positive or neutral to desert tortoise.

Monitor tortoise populations, tortoise habitats, activity plans, pertinent decisions in land use plans, and compliance with relevant stipulations in records of decision to determine the effectiveness of the mitigation.

Monitor population study plots every 2 or 5 years.

Develop a monitoring program specifically for land use activities that adversely affect tortoise habitats. Use this monitoring program to analyze the cumulative impacts of land use decisions on tortoise habitats.



**Table 2-14. Proposed tortoise ACECs- Alternative C.**

<b>ACEC</b>	<b>CATEGORY I</b>	<b>CATEGORY II</b>	<b>CATEGORY III</b>	<b>OTHER</b>	<b>TOTAL</b>
Piute Valley	148,000	58,800	79,700	300	286,800
Ivanpah Valley	0	142,580	0	0	142,580
Pahrump	0	116,600	28,000	41,800	186,400
California Wash	0	77,500	10,000	0	87,500
Coyote Springs/ Mormon Mesa	141,000	88,500	69,000	800	299,300
Indian Springs	0	133,400	0	0	133,400
Virgin**	77,000	68,000	0	75,700	220,700
<b>Totals</b>	<b>366,000</b>	<b>685,380</b>	<b>186,700</b>	<b>118,600</b>	<b>1,356,680</b>

**\*\*Virgin ACEC also includes the Virgin Mountains, the Virgin River and cultural sites.**

Incorporate the objectives and management actions of the Desert Tortoise Recovery Plan (in preparation) into all appropriate activity plans.

Withdraw approximately 11,617 acres on and adjacent to the Desert Tortoise Conservation Center from all public land laws, and close the same to fluid mineral leasing, locatable minerals, non-energy leasables and mineral materials.

## **FORESTRY MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **LIVESTOCK GRAZING MANAGEMENT**

### **Objectives:**

Maintain or improve the condition of the vegetation on 1,001,767 acres of public lands available for livestock grazing to a desired plant community or to Potential Natural Community (PNC) within 20 years.

Provide for increased plant vigor and reproductive capability of perennial forage on the public rangelands.

Maintain static or achieve upward trend of key forage species.



Provide for grazing of domestic livestock in specific areas within the planning area.

Provide for rehabilitation of the public rangelands after fires, floods or other disturbances.

Provide for the development of range improvements, including fences, waters, and vegetation manipulation, to reach more uniform distribution of livestock use in order to attain the above-stated objectives.

Improve forage production/utilization on the public lands so that the allotments now classified as "I" can be reclassified "M."

#### Management Areas:

##### Closed To Livestock Grazing:

The following areas and allotments will be closed to all livestock grazing (see Map 2-27 for location and boundaries). These areas are either located in urban areas; on lands withdrawn for use by another Federal agency; do not produce adequate amounts of livestock forage; are unmanageable as grazing allotments; or have been voluntarily relinquished by the owner of the base property.

Sunrise Mountain, Indian Springs, River Mountains, and Las Vegas Valley allotments (117,400 acres).  
Amargosa Valley/Crater Flat (all unallotted areas within southern Nye County) (581,700 acres).  
Ash Meadows, Carson Slough, and Grapevine-Rock Valley allotments (21,000 acres).  
Spring Mountains and Younts Spring allotments (252,290 acres).  
Lake Mead National Recreation Area allotment (10,400 acres).  
Wheeler Slope allotment (72,277 acres).  
Virgin River Bottom allotment (90 acres).  
Muddy River allotment (17,888 acres).

Acreage along Meadow Valley Wash and the Virgin River, including the riparian area and flood plain, which totals approximately 2,835 acres. The area withdrawn by the Bureau of Reclamation, encompassing lower Meadow Valley Wash, would be excluded.

All allotments containing tortoise ACECs, comprising approximately 1,593,480 acres.

##### Open to Livestock Grazing:

The remaining 1,001,767 acres of public lands in the planning area would be available for livestock grazing to the extent that this use is consistent with multiple use objectives, including the recovery of the desert tortoise.

#### Management Direction:

##### Initial Stocking Level

The Ephemeral Range Rule recognizes that a small percentage of perennial forage is found within most ephemeral range types. Since ephemeral forage is not produced every year and a key species must be selected by which to measure grazing use, perennial forage species were selected for key species.

Mt. Stirling: 1500 AUMs (ephemeral-perennial).



**Table 2-15. Kind of livestock - Alternative C.**

<u>Horses and Cattle</u>	<u>Cattle</u>
Flat Top	Azure Ridge
Mesa Cliff	Glendale
	Gold Butte
	Hidden Valley
	Jack Rabbit
	Kyle Canyon
	Lime Spring
	Mesa Cliff
	Muddy Mountains
	Overton Arm
	Pulsipher Wash
	Ute
	White Basin

All other Allotments: On ephemeral rangelands, the number of livestock to be licensed during any particular period will be based upon the availability of total annual ephemeral forage, consistent with the season of use and utilization level restrictions identified in the grazing prescriptions. When an application for grazing use is submitted, a determination of total forage production will be made. Grazing use will be authorized according to the grazing prescription for each specific allotment.

When proper use levels, as defined by Prescriptions 1 and 2 in the "Constraints on Livestock Grazing" section, are met, the livestock operator will be required to move livestock from the affected area.

#### Kind of livestock

The kind of livestock that will be authorized on each allotment is identified in Table 2-15.

#### Season of Use

The season of use on all allotments is subject to the desert tortoise restrictions "Constraints on Livestock Grazing" section.

#### Grazing Management Actions

Utilization of key forage species will be as specified in the "Constraints on Livestock Grazing" section. All the allotments classified as "I" and "M", which do not contain TMAs/ACECs, are scheduled for development of allotment management plans (AMPs), which will detail management actions, grazing schedules, season(s) of use, initial stocking rates (if any), schedule of monitoring and development of needed range improvements. Until AMPs are developed, water location/availability is being used to control livestock use in many of the allotments. Controlling season of use by livestock is the most effective method of allowing forage species to improve in vigor and begin reproductive functions. Range improvements, including but not limited to fences, corrals, cattleguards, pipelines, wells, spring developments, troughs and earthen reservoirs, will be needed in many allotments to facilitate management of livestock. The need, number, and type of range improvement will be established as allotment management plans are developed.



Use fire management (controlled burning) and/or mechanical treatment of undesirable vegetation to improve forage production on the federal range, where practicable and feasible.

Rehabilitate areas where vegetation has been destroyed by fire, flood or other disturbances, using native vegetation species.

#### Constraints on Livestock Grazing

Livestock grazing on allotments which contain desert tortoise habitat will be constrained by stipulations developed as a result of Section 7 consultation, as required by the *Endangered Species Act*. Stipulations will be developed as needed for each allotment. Intensive monitoring and frequent evaluations will be conducted to determine the need for change, if any, in management.

#### TMA/ACECs:

No grazing by domestic livestock will be authorized in allotments containing TMAs/ACECs, unless the livestock can be excluded from those TMAs/ACECs (see Map 2-27). All or portions of the following allotments will be affected: Arrow Canyon, Billy Goat Peak, Black Butte, Bunkerville, Christmas Tree Pass, Crescent Peak, Gold Butte, Hen Spring, Ireteba Peaks, Jean Lake, Kyle Canyon, Lower Mormon Mesa, Lucky Strike, McCullough Mountains, Mesquite Community, Mount Stirling, Muddy Mountains, Newberry Mountains, Pittman Well, Roach Lake, Rox, South Point, Stump Springs, Table Mountain, Toquop Sheep, Upper Mormon Mesa, Wheeler Wash.

#### Outside of TMAs/ACECs:

Livestock grazing on allotments which contain desert tortoise habitat, outside of ACECs, will be constrained by stipulations developed as a result of Section 7 consultation, as required by the *Endangered Species Act*. Stipulations will be developed as needed for each individual allotment. Intensive monitoring and frequent evaluations will be conducted to determine the need for change, if any, in management (see Appendix K).

The following grazing prescriptions will be implemented to meet the habitat needs of the desert tortoise outside of TMAs/ACECs, consistent with the BLM's *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

**Prescription 1:** In Category I, II, and "intensive" III desert tortoise habitat areas, livestock use will not occur from March 1 to June 14. Utilization between June 15 and October 14 shall not exceed 40 percent on key perennial plant species. Utilization from October 15 to February 28 will not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

**Prescription 2:** Within "non-intensive" Category III desert tortoise habitat, livestock use may occur February 15 to October 14, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs and shrubs. Between October 15 and February 14, forage utilization shall not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

**Prescription 3:** Desert tortoise habitats within the Crescent Peak allotment will be managed consistent with the approved AMP. This AMP will be sent to the USFWS for Section 7 consultation. Future AMPs will require Section 7 consultation prior to implementation.

The following will be designated as key species where appropriate by density and availability: galleta grass (*Hilaria jamesii* and *rigida*); bush muhly (*Muhlenbergia porteri*); sand dropseed (*Sporobolus cryptandrus*); Indian ricegrass (*Oryzopsis hymenoides*); black grama (*Bouteloua eriopoda*); and desert needlegrass (*Stipa speciosa*). Key shrubs species, where appropriate by density, shall be: range ratany (*Krameria parvifolia*);



ephedra (*Ephedra* spp.); white burrobrush (*Hymenoclea salsola*); and winterfat (*Eurotia lanata*).

Salt and mineral supplements will be placed a minimum of one mile from water.

In most cases, where allotments have significant amounts of both intensive and non-intensive management areas, the allotment will be managed according to the category of tortoise habitat affected. In allotments where the tortoise habitat is predominantly of one category, all tortoise habitat will be managed by the prescription identified for that category. For example, the White Basin allotment contains 169,000 acres of non-intensive Category III habitat but only 3,000 acres of Category II habitat. In this case, all tortoise habitat will be managed per Prescription 2. In most cases, the grazing prescription will be applied specific to the categories of habitat within the allotment.

#### Allotment Categorization

Management categories for each allotment are identified in Table 2-16.

#### Use Adjustment Criteria

Use adjustments for all allotments will be based on results of monitoring studies and determinations made through the allotment evaluation process, as specified in the *Nevada Rangelands Monitoring Handbook* (NRSTF 1984), and as further detailed below.

Utilization monitoring studies in ephemeral allotments will be conducted at least once every 3 months during the active grazing period to determine utilization levels and potential availability of forage for the next license period. Utilization studies will be conducted at least twice annually in other classified allotments (once in late summer or early fall and once at the end of the plant dormant period just prior to spring green up). These studies will be conducted at existing key areas. In allotments without established key areas, new key areas will be located by range and wildlife specialists. These new key areas will be established within one mile from reliable waters where possible and consistent with overall management objectives. If existing key areas are insufficient to adequately monitor potential impacts of grazing on forage resources, additional utilization studies may be added, as determined by an inter-disciplinary team of range and wildlife specialists. Plant species composition represented in the general habitat area should be included in each key area. Use-pattern-mapping will also be conducted on an annual basis. Range monitoring studies will only be conducted on active allotments.

### **WILD HORSE AND BURRO MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **CULTURAL RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.



**Table 2-16. Allotment management categories - Alternative C.**

<u>Improve (I)</u>	<u>Maintain (M)</u>	<u>Custodial (C)</u>
*Azure Ridge Gold Butte Hidden Valley *Mesquite Community Mt. Stirling	White Basin	*Lime Spring
*-administered by the Arizona Strip District BLM		

## LANDS MANAGEMENT

### Objectives:

Identify approximately 98,943 acres of public lands as available for disposal through sale, exchange, color-of-title or R&PP patent to provide for the orderly expansion and development of southern Nevada and meet the public service needs of individual communities within the planning area.

### Management Direction:

Encourage local government and private individuals to purchase environmentally sensitive lands or lands rich in valuable resources which could be exchanged for public lands, thus enhancing Federal land management.

Resolve unauthorized agricultural use or other unauthorized occupancy of the public lands by whatever applicable authority provides the greatest benefit to the public.

Do not allow disposal of public lands through *Indian Allotment*, *Desert Land Entry* or *The Carey Act* authorization.

Where appropriate and determined to be in the interest of the United States, resolve unauthorized use of public lands by sale, exchange, color-of-title or R&PP patent.

### Disposal Areas:

The location of Section 203 disposal areas and lands available for disposal by exchange, color-of-title or R&PP patent are shown on Map 2-28 and include the areas shown in Table 2-17 (acres were calculated to scale with a planimeter and rounded to the nearest whole number).

The following lands, presently under right-of-way to Nevada Power Company for the Harry Allen Power Generating Station (N-12873), will be available for disposal to Nevada Power Company by Section 203 sale or exchange only:



**Table 2-17. Disposal areas - Alternative C.**

<u>Disposal Areas</u>	<u>Acres</u>
Amargosa	5,020
Glendale	1,854
Goodsprings	716
Jean	1,106
Las Vegas Valley	59,998
Lathrop Wells	5,092
Laughlin	1,280
Nelson	1,673
Overton	1,665
Pahrump	17,188
Sandy	1,128
Searchlight	<u>2,223</u>
<b>Total</b>	<b>98,943</b>

Mount Diablo Meridian, Nevada

T. 17 S., R. 63 E.

sec. 12, S $\frac{1}{2}$  (within);  
 sec. 13, E $\frac{1}{2}$ , W $\frac{1}{2}$  (within);  
 sec. 24, All;  
 sec. 25, All;  
 sec. 35, Lots 3,4, NE $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
 sec. 36, All.

T. 18 S., R. 63 E.

sec. 1, Lots 3,4, S $\frac{1}{2}$ NW $\frac{1}{4}$ ;  
 sec. 2, Lots 1,2, S $\frac{1}{2}$ NE $\frac{1}{4}$ .

T. 17 S., R. 64 E.

sec. 7, Lots 10,11, E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ ;  
 sec. 18, All;  
 sec. 19, All;  
 sec. 30, All;  
 sec. 31, All. (totalling 6,168.04 acres)

Other public lands presently available for disposal through sale only have been identified through special legislation. The location of legislative disposal areas are shown on Map 2-28 and include the following:

P.L. 99-548, Mesquite, Nevada Lands Transfer Plan - 2,898 acres

P.L. 101-67, Apex Project, *Nevada Land Transfer and Authorization Act* of 1989 - 16,867 acres



P.L. 85-339, *Eldorado Valley Act* Lands - 128,401

P.L. 73, *Henderson Sale Area* - 188 acres

P.L. 522, *Henderson Sale Area* - 80 acres

Upon termination of the legislative withdrawals for the Mesquite and Eldorado Valley disposal areas, any lands remaining in Federal ownership, which meet the disposal criteria, will be made available for disposal through the most appropriate authority.

#### Land Use Authorizations:

No public lands within the planning area are available for land use leases and permits under Section 302 of *FLPMA*.

Upon termination, expiration, or relinquishment of the public land lease area authorized to Aerojet Corporation through P.L. 100-275, the lands involved will be retained in federal ownership and added to the Coyote Spring Valley TMA/ACEC.

All public lands within the planning area will be closed to airport leases under the authority of May 24, 1928, as amended, with the exceptions of those lands within a 2 mile radius of Jean and Searchlight, and those lands within a 3 mile radius of Pahrump. Proposals will be handled in the following manner:

No airport leases will be authorized within ACECs.

Airport lease applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the lands involved will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

#### Land Classifications/Segregations:

Valid Existing Management (see Appendix I)

Proposed Classifications/Segregations (see Appendix I)

#### Withdrawals:

Valid Existing Management (see Appendix I)

#### Proposed Withdrawals

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Bird Spring Archaeological Site ACEC (160 acres)

California Wash ACEC (87,500 acres)

Coyote Springs/Mormon Mesa ACEC (299,300 acres)

Crescent Mining Townsite ACEC (320 acres)  
Gold Butte Historic Mining Townsite ACEC (120 acres)  
Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)  
Indian Springs ACEC (133,400 acres)  
Ivanpah ACEC (142,580 acres)  
Pahrump Valley ACEC (186,400 acres)  
Piute Valley ACEC (286,800 acres)  
Sloan Rock Art Site ACEC (320 acres)  
Stump Spring Prehistoric/Historic Site ACEC (560 acres)  
Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)  
Virgin ACEC, Unit A (181,260 acres)  
Desert Tortoise Conservation Center (11,617 acres)  
Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)  
Within 1/4 mile of springs and associated riparian zones (2,333 acres)  
Within 1/4 mile of significant caves (3,200 acres)  
Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres).  
Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)  
Traditional Lifeways Areas (31,000 acres)

## **NATURAL AREA MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **RECREATION MANAGEMENT**

### **Objectives:**

Provide for a diversity of outdoor recreation opportunities throughout the resource area that allow for an acceptable level of activities and use levels that are consistent with the recovery of the desert tortoise.



Management Direction:

Use the Recreation Opportunity Spectrum and the designation of recreation management areas to facilitate recreation management.

Apply management prescriptions to recreation management areas that are within or overlapping a tortoise management area.

Maximize recreation opportunities in non-tortoise management areas that receive intensive visitor use.

See Map 2-29 for the locations of the following RMAs.

Special Recreation Management Areas

The objectives and management direction for all SRMAs would be the same as those identified in Alternative A.

Extensive Recreation Management Areas

Stateline Extensive Recreation Management Area (ERMA)

Objective:

Manage 2,753,732 acres of the Stateline Extensive Recreation Management Area for dispersed and diverse recreation opportunities that meet the objectives of the Recreation Opportunity Spectrum inventory.

Management Direction:

Allow OHV competitive events only on designated courses in the following areas:

Pahrump to Beatty Area (one race per year).

Allow non-OHV competitive and commercial events and activities throughout the ERMA subject to conflict resolution.

Allow recreation concession leases that benefit the Recreation Opportunity Spectrum inventory management classes. Specifically look for recreation concessions in the Laughlin area.

Prepare a RAMP for the ERMA.

Manage for a full spectrum of dispersed recreation opportunities throughout the ERMA.

Designate "Scenic Byways" along Kyle and Lee Canyons and along the Searchlight to Nipton road.

Prohibit recreational and target shooting within the Las Vegas Valley. Legal hunting would be appropriate per NDOW regulations subject to NDOW regulations.

Off Highway Vehicle Designations

Objectives:

Designate 9,180 acres in the following areas and shown on Map 2-30, as open to motorized uses to

provide for maximum opportunities for off-highway vehicle use.

#### Las Vegas/Nellis Dunes SRMA

Designate 1,871,444 acres as shown on Map 2-30, as limited to existing roads and trails to provide for a high level of off-highway vehicle use. Wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and other legitimate users of the public land would sustain less OHV-related impacts by this designation.

Designate 1,777,313 acres in the following areas, shown on Map 2-30, as limited to designated roads and trails to provide for a moderate level of off-highway vehicle use. This designation would provide a high level of protection from OHV-related impacts for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and other legitimate users of the public land.

Arrow Canyon SRMA  
Ash Meadows ACEC  
Big Dune ACEC/SRMA (only that portion shown on Map 2-30)  
California Wash ACEC  
Christmas Tree Pass SRMA  
Gold Butte SRMA  
Indian Springs ACEC  
Ivanpah ACEC  
Mormon Mesa/Coyote Springs Valley ACEC  
Muddy Mountains SRMA  
Nelson Hills/Keyhole Canyon SRMA (only that portion shown on Map 2-30)  
Old Spanish Trail/Mormon Road Trail SRMA  
Pahrump Valley ACEC  
Piute Valley ACEC  
Red Rock Canyon ACEC/SRMA  
Sunrise Mountain ACEC/SRMA  
Virgin ACEC

All areas with soils in a "critical" erosion condition class, areas with soils in a "stable" to "moderate" erosion condition class with a "high" erosion susceptibility rating, and areas with saline soils (as shown on Map 2-30)

Designate 13,190 acres in the following areas, as shown on Map 2-30, as closed to motorized uses. This designation would provide a maximum level of protection from OHV-related impacts for wildlife habitat, cultural resources, hydrological and soil resources, non-motorized recreation opportunities, and protect other legitimate users of the public land.

Big Dune ACEC  
Hidden Valley District ACEC  
Virgin ACEC (that portion shown on Map 2-30)

#### Cave Management

The objectives and management direction would be the same as those identified in Alternative A.



## WILD AND SCENIC RIVER MANAGEMENT

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## RIGHTS-OF-WAY MANAGEMENT

### Objectives:

Provide an orderly system for transportation, communications, major utility transmission lines, and related facilities to meet public needs, while reducing impacts to sensitive resources and special status species.

### Management Direction:

#### Utility/Transportation Corridors

Retain the following designated corridors as valid existing management:

Numerous corridors established within the Apex sale area by P.L. 101-67, consisting of existing powerline rights-of-way ranging from 300 feet to 1800 feet in width, for a total length of approximately 32 miles.

That corridor established in Coyote Springs Valley by the Aerojet legislation being 1 mile wide and approximately 4 miles long.

Designate the following corridors:

A corridor for those lands under right-of-way reservation in the Moapa Indian Reservation Legislation extending 1500 feet westerly of the right-of-way for the Reid Gardner-Pecos transmission lines through the area 1500 feet easterly of the right-of-way for the Navajo-McCullough transmission line, approximately 13 miles in length.

A corridor 2 miles in width and 2 miles in length passing through the Sunrise ISA. Activation and use of this corridor is contingent upon Congressional action releasing the ISA from further wilderness consideration and study.

See Map 2-31 for the location of corridors designated in this alternative. Approximately 505,012 acres are involved, including legislative designations and the proposed Sunrise Mountain designation. The corridors range in width from 1 mile to 3 miles, for a total length of approximately 476 miles.

Corridors not considered:

The corridor entering Nevada at Nipton Road and designated as Contingent Corridor W in the *California Desert Conservation Area Plan* (CDCAP), dated 1980, will not be carried forward in this alternative. The 1988 *Mojave National Scenic Area Management Plan* recommended elimination of the corridor; the elimination was accomplished by a plan amendment to the CDCAP.

That portion of corridor K-G described as K and identified in the *Esmeralda-Southern Nye RMP* will not be carried forward in this alternative. Corridor F-G-H-I, located to the east and continuing in a southerly direction, can adequately accommodate the 750kv line authorized to the Western Area Power

Administration (WAPA) under right-of-way Nev-065524, as well as future rights-of-way. The placement of the WAPA line and future rights-of-way within corridor F-G-H-I will prevent the proliferation of large and multi-powered lines in the close proximity to the town of Beatty.

That portion of corridor H-J, described as J and identified in the *Esmeralda-Southern Nye RMP* will not be carried forward in this alternative. In order to prevent restrictions on the growth of the Las Vegas Valley, there will be no corridors designated on its north, west and south boundaries, thus eliminating the need for a northwestern tie-in.

There will be no corridor designated along U.S. Highway 93 between the Aerojet Conveyance Area and the Apex Project Area. Numerous corridors are designated within the Apex Project Area; to prevent a proliferation of connecting corridors, the tie-in will be at one focal point. A corridor will be designated along the south boundary of State Highway 168, running in a southeasterly direction to the town of Moapa where it will tie-in with the powerline corridor from Lincoln County, crossing the northeastern portion of the resource area. The corridor will continue southwesterly through the Moapa Indian Reservation corridor to the Apex Project Area, where it will connect with the Apex corridors at the easternmost portion of the site.

#### Corridor Terms and Conditions:

No newly-designated corridor will be over 3 miles in width. Within TMAs/ACECs, newly-designated corridors will be limited to 2 miles in width.

No rights-of-way will be authorized within corridors designated in WSAs or ISAs until Congress releases them from further wilderness consideration and study.

When feasible, and where compatible, major pipeline rights-of-way will be placed within powerline corridors.

If the Sunrise ISA is dropped from further consideration, the corridor running through that area will be limited to transmission lines of 250kv and above.

#### Right-of-Way Avoidance Areas

The management direction under this alternative would be the same as that identified for Alternative A.

#### Right-of-Way Exclusion Areas

The management direction under this alternative would be the same as that identified for Alternative A.

#### Areal Rights-of-Way

See Map 2-7 for the present location of existing established communication sites that will be carried forward in this alternative.

The management direction under this alternative would be the same as that identified for Alternative A.

#### Trespass Resolution

The management direction under this alternative would be the same as that identified for Alternative A.



## **WILDERNESS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **MINERALS MANAGEMENT**

### **Objectives:**

Provide for orderly exploration and development of minerals on Federally owned mineral estate whether or not the surface estate is in Federal ownership.

### **Management Areas:**

See Map 2-32 (a-d) for the locations of the mineral management areas described below.

### **Management Actions:**

Allow fluid mineral leasing subject to standard terms and conditions on 755,654 acres.

Allow fluid mineral leasing subject to seasonal and other constraints on 1,886,509 acres.

Allow fluid mineral leasing subject to no surface occupancy and similar major constraints on 9,558 acres.

Do not allow fluid mineral leasing on 2,033,369 acres.

Allow locatable mineral activity on 2,328,265 acres.

Do not allow locatable mineral activity on 2,312,668 acres.

Allow saleable mineral disposal on 2,533,021 acres.

Do not allow saleable minerals disposal on 2,108,907 acres.

Allow solid mineral leasing on 2,660,386 acres.

Do not allow solid mineral leasing on 2,004,689 acres.

Do not renew existing sand and gravel leases.

Do not approve existing sand and gravel lease applications.

### **Fluid Minerals (4,685,090 acres)**

Areas open subject to standard terms and conditions: (755,654 acres)

The remainder of the Stateline Resource Area, except those areas closed to leasing, those areas open to leasing subject to seasonal and other minor constraints, those areas open to leasing subject to no surface occupancy and other similar major constraints, and those areas open to leasing subject to seasonal and other minor constraints (755,654 acres).

Areas open subject to seasonal or other minor constraints: (1,886,509 acres)

Bighorn sheep habitat not closed to leasing (closed from May 1 through September 30) (447,430 acres)

Desert tortoise habitat not closed to leasing (closed from March 1 to October 31) (1,439,079 acres)

Areas open subject to no surface occupancy and similar major constraints: (9,558 acres)

Big Dune ACEC (no surface occupancy) (1,000 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (no surface occupancy) (3,025 acres)

Springs and associated riparian zones (no surface occupancy within  $\frac{1}{4}$  mile) (2,333 acres)

Significant caves and karst resources (no surface occupancy within  $\frac{1}{4}$  mile) (3,200 acres)

Areas closed to leasing: (2,033,369 acres)

Valid Existing Closures (261,746 acres)

Amargosa Mesquite ACEC (9,600 acres)

Ash Meadows ACEC (37,078 acres)

Bird Spring Archaeological Site ACEC (160 acres)

California Wash ACEC (87,500 acres)

Coyote Springs/Mormon Mesa ACEC (299,300 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Indian Springs ACEC (133,400 acres)

Ivanpah ACEC (142,580 acres)

Pahrump Valley ACEC (186,400 acres)

Piute Valley ACEC (286,800 acres)

Sloan Rock Art Site ACEC (320 acres)

Stump Spring Prehistoric/Historic Site ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Unit A (181,260 acres)



Desert Tortoise Conservation Center (11,617 acres)

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas and Laughlin land disposal areas (61,278 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline) (36,000 acres)

Traditional Lifeways Areas (31,000 acres)

Locatable Minerals (4,640,933 acres)

Areas open to the operation of the mining laws: (2,328,265 acres)

ACECs not closed to the operation of the mining laws (63,640 acres)

Amargosa Mesquite ACEC (9,600 acres)

River Mountains ACEC (14,600 acres)

Virgin ACEC, Unit B (39,440 acres)

The remainder of Stateline Resource Area, except those areas closed to the operation of the mining laws (2,264,625).

Areas closed to the operation of the mining laws subject to valid existing rights: (2,312,668 acres)

Valid Existing Closures (432,087 acres)

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Bird Spring Archaeological Site ACEC (160 acres)

California Wash ACEC (87,500 acres)

Coyote Springs/Mormon Mesa ACEC (299,300 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Indian Springs ACEC (133,400 acres)

Ivanpah ACEC (142,580 acres)

Pahrump Valley ACEC (186,400 acres)

Piute Valley ACEC (286,800 acres)

Sloan Rock Art Site ACEC (320 acres)

Stump Spring Prehistoric/Historic Site ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC, Unit A (181,260 acres)

Desert Tortoise Conservation Center (11,617 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres).

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas and Laughlin land disposal areas (61,278 acres)

Traditional Lifeways Areas (31,000 acres)

Mineral materials disposal areas (64,000 acres)

Mineral Materials (4,641,928 acres)

Areas open to mineral materials disposal and authorization/renewal of material site rights-of-way: (2,533,021 acres)

All of the Stateline Resource Area, except those areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (2,533,021 acres).

Areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way: (2,108,907 acres)

Valid Existing Closures (145,586 acres)

Amargosa Mesquite ACEC (9,600 acres)

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Bird Spring Archaeological Site ACEC (160 acres)

California Wash ACEC (87,500 acres)



Coyote Springs/Mormon Mesa ACEC (299,300 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Indian Springs ACEC (133,400 acres)

Ivanpah ACEC (142,580 acres)

Pahrump Valley ACEC (186,400 acres)

Piute Valley ACEC (286,800 acres)

Red Rock Canyon ACEC (83,100 acres)

River Mountains ACEC (14,600 acres)

Sloan Rock Art Site ACEC (320 acres)

Stump Spring Prehistoric/Historic Site ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC (220,700 acres)

Desert Tortoise Conservation Center (11,617 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres)

Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas and Laughlin land disposal areas (61,278 acres)

Traditional Lifeways Areas (31,000 acres)

Non-Energy Leasable Minerals (4,665,075 acres)

Areas open to non-energy mineral activities: (2,660,386 acres)

All of Stateline Resource Area except those areas closed to non-energy mineral activities (2,660,386 acres).

Areas closed to non-energy mineral activities: (2,004,689 acres)

Valid Existing Closures (216,746 acres)

Amargosa Mesquite ACEC (9,600 acres)

Ash Meadows ACEC (37,078 acres)

Big Dune ACEC (1,000 acres)

Bird Spring Archaeological Site ACEC (160 acres)

California Wash ACEC (87,500 acres)

Coyote Springs/Mormon Mesa ACEC (299,300 acres)

Crescent Mining Townsite ACEC (320 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)

Indian Springs ACEC (133,400 acres)

Ivanpah ACEC (142,580 acres)

Pahrump Valley ACEC (186,400 acres)

Piute Valley ACEC (286,800 acres)

River Mountains ACEC (14,600 acres)

Sloan Rock Art Site ACEC (320 acres)

Stump Spring Prehistoric/Historic Site ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin ACEC (220,700 acres)

Desert Tortoise Conservation Center (11,617 acres)

Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres)



Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)

Las Vegas and Laughlin land disposal areas (61,278 acres)

Traditional Lifeways Areas (31,000 acres)

## ACQUISITIONS MANAGEMENT

### Objectives:

To acquire private lands to enhance the recovery of special status species, protect valuable resources and facilitate the management of adjacent BLM.

To secure on-the-ground access to otherwise inaccessible public lands.

### Management Direction:

#### Access Needs

Obtain an easement on or across the Pabco Tram Road.

#### Land Acquisition Needs

Where the lands are available and the current owner is willing, the BLM will attempt to acquire these lands: (a pool of more than 14,669 acres)

All private lands within designated ACECs (includes Red Rock Canyon National Conservation Area) and TMAs - approximately 6,372 acres

All private lands within the Ash Meadows ACEC but located outside of the refuge boundary - approximately 415 acres

If the opportunity arises, the BLM will attempt to acquire all lands located within the planning area conveyed into private ownership to Aerojet Corporation through P.L. 100-275. The approximate 7,882 acres involved are located in Coyote Spring Valley and will be retained in Federal ownership as part of Coyote Spring Valley TMA/ACEC.

Private lands along the Virgin River south of Riverside, including lands outside the Virgin ACEC.

## FIRE MANAGEMENT

The objectives and management direction under this alternative would be the same as those identified for Alternative A.



## **SPECIAL MANAGEMENT AREAS**

Map 2-26 depicts the locations of the ACECs described below. Total acreage of proposed ACECs is approximately 1,538,298 acres in 19 areas.

### **1. PIUTE VALLEY ACEC**

**Values:** Category I, II and III desert tortoise habitat, Keyhole Canyon Rock Art Site, and teddy bear cholla (*Opuntia biglovii*).

**Acreage:** 286,800 acres total  
148,000 acres Category I habitat  
58,800 acres Category II habitat  
79,700 acres Category III habitat  
300 acres Keyhole Canyon Rock Art Site

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal lands where available within the ACEC.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:** (applies to entire ACEC, 286,800 acres)

Close to the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources and desert tortoise and its habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

##### **Range management:**

No livestock grazing.

##### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:** (includes part of Christmas Tree Pass SRMA)

Limit motorized uses to designated roads and trails.

Prohibit all OHV competitive and non-competitive events. Non-OHV competitive and commercial events and activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No developed recreational facilities will be allowed in Category I tortoise habitat.

No recreation concession leases will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Piute Valley and Christmas Tree Pass population study plots (PSP) every 4 to 5 years or as appropriate.



## **2. IVANPAH ACEC**

**Values:** Category II desert tortoise habitat, Category I candidate plant species (*Opuntia whipplei* var. *multigeniculata*).

**Acreage:** 142,580 acres

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 142,580 acres)

Close to the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources and desert tortoise and its habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

No livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:** (includes a portion of Jean/Roach Dry Lakes SRMA)

Limit motorized uses to designated roads and trails.

Do not allow non-competitive or competitive OHV permitted events in the ACEC. Other appropriate commercial permitted activities allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the TMA by reading the Sheep Mountain PSP once every 4-5 years or as appropriate.

Monitor for impacts to cultural sites from recreational uses or natural erosion.

Monitor populations of *Opuntia whipplei* var. *multigeniculata* on an annual basis.



### **3. PAHRUMP VALLEY ACEC**

**Values:** Category II and III desert tortoise habitat.

**Acreage:** 186,400 acres

**Resource constraints:**

**Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 186,400 acres)

Close to mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources and desert tortoise and its habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

**Range management:**

No livestock grazing.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

Do not allow new roads (cultural recommendation).

**Recreation/OHV:**

Limit casual OHV use to designated roads and trails.

Do not allow non-competitive or competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases and no developed recreational facilities will be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in Pahrump Valley by reading the Trout Canyon PSP once every 4-5 years or as appropriate.

Monitor for impacts to the sites from recreational uses or natural erosion.



#### **4. INDIAN SPRINGS ACEC**

**Values:** Category II desert tortoise habitat

**Acreage:** 133,400 acres

**Resource constraints:**

**Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 133,400 acres)

Close to the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources and desert tortoise and its habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

**Range management:**

No livestock grazing.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:** (includes part of Desert View SRMA)

Limit motorized uses to designated roads and trails.

Prohibit all non-competitive and competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

Allow recreation concession leases in Desert View SRMA.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the TMA by establishing a population study plot and reading the plot once every 4 to 5 years or as appropriate.



## **5. COYOTE SPRINGS/MORMON MESA ACEC**

**Values:** Category I, II and III desert tortoise habitat and Arrow Canyon Archaeological/Paleontological District. Cultural Resources - The archaeological portion of the district consists of hundreds of rock art panels along the canyon walls. The paleontological values comprise embedded tracks of extinct birds.

**Acreage:** 299,300 acres total  
141,000 acres of Category I habitat  
88,500 acres of Category II habitat  
69,000 acres of Category III habitat  
800 acres of cultural resource/paleontological values

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category I, II and III tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 299,300 acres)

Close to the operation of the mining laws. A plan of operations will be required to mitigate impacts to desert tortoise and habitat.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

No livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions. Except in the Arrow Canyon Archeological/Paleontological District (3,100 acres), where no new roads will be allowed.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

#### **Recreation/OHV:**

Casual OHV use would be limited to designated roads and trails.

Prohibit all non-competitive and competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Cultural/Paleontological:**

A plan for specimen recovery at the Bird Tracks Area will be required for any Federal actions.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Coyote Springs PSP once every 4-5 years or as appropriate.

Monitor cultural and paleontological sites for impacts to the sites from recreational uses or natural erosion.



## 6. VIRGIN ACEC

### Values Threatened and Endangered Species

Category I and II desert tortoise habitat

Two endangered fish (woundfin and Virgin River roundtail chub)

Potential peregrine falcon habitat

### Other Wildlife Habitat

The diversity of botanical resources in the area results in a high diversity of all wildlife species. The Virgin Mountains provide habitat for desert bighorn and mule deer, and the Virgin River provides waterfowl habitat.

### Cultural and Historic Resources

The Virgin River Anasazi Prehistoric District is a series of pueblos and pit structures situated on terraces that overlook the river. These structures were constructed by the Virgin Anasazi who farmed the floodplain from about A.D. 500 to 1150.

The area also contains numerous shelter caves and agave roasting pits used by aboriginal hunter-gatherers including the Virgin Anasazi and the ancestors of the contemporary Paiute. A dam and storage room built into the rock formations in historic times remain at Whitney Pocket.

There are several old mining sites of historic interest and value in the northern portion of the ACEC.

### Botanical Resources

The area supports a number of unusual botanical resources, including a small isolated stand of Douglas fir in the Virgin Mountain area, unique in its location as the southern-most extension in Nevada and the only occurrence in Clark County, small isolated stands of white fir and ponderosa pine, and the only known occurrence of Arizona cypress in Nevada. The Virgin Mountains support a high diversity of botanical resources because of their location in the transition zone between the Great Basin, Mojave, and Sonoran desert biomes. The Virgin River supports the largest area of riparian habitat administered by the BLM in the planning area.

### Scenic Quality

The area contains a vast array of scenic values and contrasts including pinyon/juniper woodlands, exposed sandstone formations, rugged topography, and outstanding panoramas of the surrounding deserts and Lake Mead.

### Geologic Resources

Devil's Throat is a sinkhole approximately 165 feet deep and 100 feet in diameter; this formation possesses scientific value in that sinkholes are uncommon in desert environments. In addition, Devil's Throat has been designated as a Natural Hazard Area because of the danger it poses to the public.

**Acreage:** approximately 220,700 acres total

Category I habitat-77,000 acres

Category II habitat-68,000 acres

Within 1/2 mile of Devil's Throat-approximately 500 acres within Category I tortoise habitat

Virgin River Anasazi Prehistoric District and Virgin River-5,000 acres

Virgin Mountains-46,000 acres (includes potential peregrine falcon habitat)

24,700 acres other (primarily Category III tortoise habitat)

**Resource constraints:**

**Lands:**

Acquire non-federal lands where available within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:**

In tortoise habitat, within 1/2 mile of Devil's Throat, Virgin River Anasazi Prehistoric District, and Virgin Mountain Natural Area and Virgin River: (181,260 acres) (Virgin ACEC, Unit A)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

Virgin Mountains outside of the Natural area: (39,440 acres) (Virgin ACEC, Unit B)

Open to operation of the mining laws. A plan of operations is required for all valid existing rights.

Closed to mineral material disposal.

Open to fluid mineral leasing subject to standard stipulations.

Closed to non-energy mineral leasing.



**Range management:**

No livestock grazing in Billy Goat Peak, Bunkerville, Hen Springs, and Mesquite Community allotments.

Move the boundary of Gold Butte Allotment south to exclude the ACEC. Allow livestock grazing in Gold Butte Allotment.

Move boundary of Gold Butte Burro Herd Management Area south to exclude the ACEC.

Close the Virgin River floodplains to livestock grazing. Water would be provided either through the use of water gaps or establishment of alternate sources.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions. except in the Virgin River Anasazi Prehistoric District.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

Do not allow new roads in the Virgin River Anasazi Prehistoric District.

**Forest and woodlands management:**

Prohibit the removal of Douglas fir, white fir, ponderosa pine, and cypress within the ACEC.

**Recreation/OHV: (includes a large portion of the Gold Butte SRMA)**

Prohibit all non-competitive and competitive OHV events in Category I and II tortoise habitat. Other appropriate permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed within Category I and II tortoise habitat.

Fencing and interpretive signing at Devil's Throat.

Close the Virgin River to all OHV use.

Study the Virgin River for wild and scenic values.

Manage the area for semi-primitive motorized recreation opportunities including hiking, camping, hunting, horseback riding, interpretation, picnicking, photography, and nature study.

Limit motorized vehicle recreation to designated roads and trails.

Develop one campground/picnic facility in the White Rock area.

Manage the area for VRM Management Class II scenic values.

**Fire management:**

Prohibit the use of heavy equipment (graders, bulldozers, front end loaders, etc.) to extinguish wild fires.

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988 and the *Endangered Species Act*.

Monitor tortoise populations in the TMA by reading the Gold Butte PSP every 4-5 years or as appropriate.

Maintain fence around Devil's Throat.

Revise the *Virgin River Habitat Management Plan* (USDI, BLM 1984) to include T&E objectives consistent with the *Virgin River Recovery Plan*, riparian objectives, waterfowl objectives, an analysis of the present situation and management prescriptions.

Prepare a tamarisk management plan that includes an analysis of potential management prescriptions.

Delineate the extent and characteristics of the Virgin River riparian zone, including tamarisk encroachment, in order to identify improvement potential.

Where available, acquire instream water rights.

Monitor water quality and bring into compliance with EPA standards.

Monitor for impacts to cultural sites from recreational uses or natural erosion.



## **7. CALIFORNIA WASH ACEC**

**Values:** Category II and III desert tortoise habitat

**Acreage:** 87,500 acres total  
77,500 acres Category II habitat  
10,000 acres Category III habitat

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 87,500 acres)

Close to operation of the mining laws. A plan of operations on valid existing rights will be required to mitigate impacts to desert tortoise and habitat.

Closed to mineral materials disposal.

Closed to non-energy mineral leasing.

Closed to fluid mineral leasing.

#### **Range management:**

No livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted activities.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:**

With the exception of the Mint 400, no competitive OHV events will be allowed. The Mint 400 will be allowed on a designated course which will not change with only one event allowed per year. No non-competitive OHV events will be allowed. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the recovery of the desert tortoise.

Casual OHV use will be limited to designated roads and trails.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the TMA by establishing a population study plot and reading the PSP every 4-5 years or as appropriate.



## **8. ASH MEADOWS ACEC**

**Values:** Thirteen special status plant and animal species and essential habitat for a unique wetlands/meadow ecosystem.

**Acreage:** 37,078.3 acres of BLM land  
480.0 acres private inholdings  
37,078.3 acres total (pending withdrawal of 9,243 acres by FWS)  
27,835.3 final total anticipated after withdrawal by FWS

### **Resource constraints:**

#### **Lands:**

Acquire private lands within the ACEC, but outside the refuge boundary, when such lands are available.

Designate as a right-of-way avoidance area. Rights-of-way may be granted only if determined to be appropriate and after thorough environmental review and identification of appropriate mitigation measures.

Include 9,243 acres of BLM inholdings in the Ash Meadows NWR in the ACEC, pending withdrawal by FWS.

Transfer 9,243 acres of BLM inholdings within the Ash Meadows NWR boundary to the U.S. Fish and Wildlife Service.

#### **Minerals:** (applies to entire ACEC, 37,078 acres)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

The following allotments will be closed to all livestock grazing:

Ash Meadows Allotment  
Carson Slough Allotment  
Grapevine-Rock Valley Allotment

#### **Wild Horse and Burro management:**

Amargosa Herd Area will be managed for a population level of zero animals. Wild horses and burros will be removed as expeditiously as possible from Ash Meadows NWR/ACEC.

**Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

**Recreation/OHV:**

Do not allow competitive OHV events. Other commercial permitted activities will not be allowed.

Casual OHV use will be limited to designated roads and trails.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage the ACEC consistent with the goals and objectives of the *Ash Meadows Recovery Plan* (USDI, USFWS 1984).

Develop a cooperative agreement with the USFWS for management of the Ash Meadows ACEC.



## **9. BIG DUNE ACEC**

**Values:** Four candidate invertebrate species, three of which are endemic to the dunes.

**Acreage:** 1,000 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-ways may be granted only if determined to be appropriate and after thorough environmental review and identification of appropriate mitigation measures.

#### **Minerals:** (applies to entire ACEC, 1,000 acres)

Close to the operation of the mining laws.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Open to fluid mineral leasing subject to no surface occupancy.

#### **Range management:**

Amargosa Valley and Crater Flat will be closed to livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:** (includes Big Dune SRMA)

Close to motorized uses.

Prohibit all OHV and non-OHV competitive events. Commercial activities outside of habitat protecting the candidate species will be allowed on a case-by-case basis, consistent with BLM policy for managing habitats of candidate species.

Prepare a Recreation Activity Management Plan for Big Dune SRMA concurrent with the ACEC management plan.

Sign the closed portion of the dunes, including interpretive signs.

#### **Other:**

Manage consistent with BLM policy for managing habitats of special status species.

## **10. RIVER MOUNTAINS ACEC**

**Values:** Desert bighorn sheep, scenic viewshed for Boulder City and Henderson.

**Acreage:** 14,600 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area, except within the designated corridor. Rights-of-ways may be granted if determined to be appropriate and after thorough environmental review and identification of appropriate mitigation measures.

Authorization of future communication site rights-of-way will be limited to the following:

Existing established communication sites.

No future communication site rights-of-way will be granted on any individual established communication site until a site management plan has been approved for that site.

Access will be by existing roads or helicopter only.

#### **Minerals:**

Open to the operation of the mining laws. A mining plan of operations will be required and impacts to desert bighorn sheep will be mitigated.

Open to fluid mineral leasing subject to seasonal constraints.

Closed from May 1 through September 30 within 2 miles of both existing and future big game water developments.

Close to non-energy mineral leasing.

Close to mineral material disposal.

#### **Range management:**

Manage consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988).

Livestock grazing will not be allowed on the River Mountain Allotment.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.



**Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

Do not allow non-competitive or competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988).

No recreation concession leases will be allowed.

**Other:**

Manage consistent with the BLM's *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988).

## **11. AMARGOSA MESQUITE ACEC**

**Values:** Rare vegetative community and high value as wildlife habitat.

**Acreage:** 9,600 acres.

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-ways may be granted if determined to be appropriate, and after thorough environmental review and identification of appropriate mitigation measures.

#### **Minerals:**

Open to the operation of the mining laws. A mining plan of operations would be required.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Forest and woodlands management:**

Monitor annually and allow limited firewood harvest if it is consistent with the goals and objectives of the ACEC management plan and woodlands management plan. Strictly regulate firewood harvest by marking individual trees for harvest.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Manage primarily for wildlife values with firewood harvest as needed to meet wildlife goals and objectives.



## **12. HIDDEN VALLEY DISTRICT ACEC**

**Values:** Cultural Resources - Rock art, rockshelter, and camp site district in the Muddy Mountains.

**Acreage:** 3,360 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate and after thorough environmental review and identification of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:**

Close to the operation of mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Close to all OHV use. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

### **13. SLOAN ROCK ART SITE ACEC**

**Values:** Cultural Resources - Several hundred petroglyph panels are found on the walls of this shallow canyon for a distance of more than one-half mile.

**Acreage:** 320 acres

**Resource constraints:**

**Lands:**

Designate as a right-of-way avoidance area. If technological or environmental constraints warrant the authorization of rights-of-way in this area, rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions.

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

**Range management:**

Per Section 7 consultation.

**Roads and access:**

Do not allow new roads.

**Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

**Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



#### **14. CRESCENT MINING TOWNSITE ACEC**

**Values:** Cultural Resources - The remains of structural features and the artifacts from a short-lived, early 20th century mining town are present.

**Acreage:** 320 acres

**Resource constraints:**

**Lands:**

Designate as a right-of-way avoidance area. If technological or environmental constraints warrant authorization of rights-of-way in this area, rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions.

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. Plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

**Range management:**

Per Section 7 consultation.

**Roads and access:**

Do not allow new roads.

**Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

**Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## 15. RED ROCK CANYON ACEC

**Values:** Outstanding scenic values including, a textbook example of a thrust fault, outstanding desert riparian habitats, a 3,000 foot escarpment of sandstone, and Pine Creek Research Natural Area, desert bighorn sheep, desert tortoise habitat (Category II). Significant cultural resources include the Brownstone Canyon National Register Archaeological District, consisting of a rare pictograph rock art panel, shelters, roasting pits and two historic dams. Other prehistoric and historic cultural resource sites include Sandstone Quarry, Willow Spring, Lost Creek and Red Spring. The area also includes *Angelica scabrida*, a Category I candidate species, and *Opuntia whipplei* var. *multigeniculata*, a Category I candidate species found on Blue Diamond Hill, just outside the current RRCNCA boundary.

**Acreage:** 83,100 acres.

### **Resource constraints:**

#### **Lands:**

Acquire non-federal inholdings where available by trade or purchase.

Designate as a right-of-way avoidance area. If technological or environmental constraints warrant the authorization of rights-of-way in this area, such rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 83,100 acres)

Close to mineral material disposal.

#### **Range management:**

Close to livestock grazing.

#### **Roads and access:**

New roads will be allowed only in response to approved site plans and activity plans.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Forest and woodlands management:**

No disposal of native vegetation or woodland products.

#### **Recreation:**

Limit OHV use to designated roads and trails.

Do not allow competitive OHV permitted events in the ACEC. Other appropriate commercial or



competitive activities will be allowed on a case-by case basis, consistent with the goals and objectives of the Recreation Activity Plan.

**Other:**

Manage Category II tortoise habitat within the ACEC consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

## **16. GOLD BUTTE HISTORIC MINING TOWNSITE ACEC**

**Values:** Cultural Resources - This archaeological site consists of the remains of a small tent town from the first decade of the 20th century.

**Acreage:** 120 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. If technological or environmental constraints warrant the authorization of rights-of-way in this area, such rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 120 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **17. BIRD SPRING ARCHAEOLOGICAL SITE ACEC**

**Values:** Cultural Resources - The archaeological site consists of a rockshelter and a deep midden. Test excavation completed in 1982 suggests that data contained in this site could further the understanding of regional prehistory.

**Acreage:** 160 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. If technological or environmental constraints warrant the authorization of rights-of-way in this area, such rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 160 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **18. STUMP SPRING PREHISTORIC/HISTORIC SITE ACEC**

**Values:** Cultural Resources - This is a complex consisting of several food processing loci and campsites reflecting prehistoric mesquite collection practices. It was also a spring stop on the historic *Old Spanish Trail/Mormon Road*.

**Acreage:** 560 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. If technological or environmental constraints warrant the authorization of rights-of-way in this area, such rights-of-way may be granted subject to the standard terms and conditions for such authorizations, as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 560 acres)

Close to the operation of mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **19. SUNRISE MOUNTAIN ACEC**

**Values:** Cultural Values - Gypsum Cave is located in the northeastern portion of the area and contains some of the earliest evidence of human occupation in southern Nevada.

Scenic Quality - Outstanding scenic values in the Rainbow Gardens area. Unique volcanic outcrops colored in red hues contrasting with black volcanics. Outstanding panoramas of the surrounding deserts and Lake Mead.

Botanical Values - Two special status species are located in the Sunrise Mountain area: *Arctomecon californica* (bearpoppy) and *Agave utahensis* var. *eborispina* (century plant).

Historic Mining - The historic Frenchman mine is located in the southwestern portion of the ACEC.

Wildlife Values - Desert bighorn sheep and desert tortoise reside throughout the Sunrise Mountain area.

Geologic Values - The Frenchman Mountain/Rainbow Gardens area is featured in many introductory geology textbooks and is visited each year by many geologists and students. The area is significant because it is an excellent example of crustal extension and contains extraordinary exposures of Paleozoic and Mesozoic strata. In addition, the area has been published in a guidebook to the 100 most significant and accessible geologic localities in the western U.S. and Canada by the Geologic Society of America.

**Acreage:** 31,400 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except for one designated corridor. ROWs may be granted if determined appropriate after environmental review and the development of appropriate mitigation measures.

Designate one location for communication sites.

#### **Minerals:**

Close to fluid mineral leasing.

Close to operation of the mining laws.

Close to mineral material disposal.

Close to non-energy mineral leasing.

#### **Roads and access:**

New roads would only be allowed if approved through an activity plan, plan of operation, or

other use authorizations.

As funding and priorities permit, rehabilitate existing roads which become closed through the OHV designation process.

**Recreation/OHV:**

Manage the area for the following recreation opportunities: mountain bike riding, hiking, camping, horseback riding, interpretation, picnicking, photography, and nature study.

Limit motorized uses to designated roads and trails.

Prohibit competitive OHV events. Other non-OHV competitive and commercial permitted events and activities and recreation concession leases are appropriate.

Prepare a RAMP.

Determine an appropriate area for the development of a camping and picnicking facility.

Designate a Back Country Byway within the SRMA.

Prohibit recreational and target shooting within the SRMA. Legal hunting would be appropriate subject to NDOW regulations.

**Fire management:**

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.



## **ALTERNATIVE D - PREFERRED ALTERNATIVE**

**GOAL -** To continue multiple use of the public lands, permit maximum flexibility in the disposal of public lands, and provide for the protection and recovery of the desert tortoise.

### **AIR RESOURCES MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **SOILS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **WATER RESOURCES MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **VEGETATION MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **RIPARIAN MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **VISUAL RESOURCE MANAGEMENT (VRM)**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **FISH AND WILDLIFE HABITAT MANAGEMENT**

The objectives and management direction, unless specifically discussed below, would be the same as those identified for Alternative A.

## BIGHORN SHEEP

### Objectives:

Maintain or improve approximately 869,800 acres of current and potential habitat toward full ecological potential (PNC) and maximum species diversity to allow desert bighorn sheep populations to reach levels consistent with the carrying capacity of their habitat (see Map 3-8). Potential population estimates, as identified in Table 2-4, will be adjusted as necessary through monitoring, to meet the carrying capacity of the habitat.

### Management Direction:

Maintain and improve bighorn sheep habitat through the maintenance of existing water developments and the construction of additional water developments. Protect and improve springs, seeps and riparian habitat in the following HMP areas (see Map 3-8). Limit competition among bighorn, livestock, wild horses, and burros around spring sources by providing separate water sources for wildlife. Activities will not be limited to the following areas if new knowledge or data indicates the need for improvements in other areas.

Arrow Canyon/Elbow Range  
South Spring/Bird Spring Range/Devil Peak  
Gold Butte/Virgin Mountains  
Highland Range  
Muddy Mountains  
Eldorado/Newberry Mountains  
Spring Range (Red Rock/La Madre)  
McCullough Range  
New York/Castle Peak  
Dry Lake Range  
Specters/Last Chance/Bare Mountains

Develop, approve, and implement HMPs for the following habitat areas. Allow artificial water developments in the following:

Arrow Canyon/Elbow Range  
South Spring Range/Bird Spring Range/Devil Peak  
Gold Butte/Virgin Mountains  
Highland Range (revise existing HMP)  
Muddy Mountains  
Eldorado/Newberry Mountains  
Spring Range (Red Rock/La Madre)  
South McCullough/Crescent Peak/Lucy Grey/North McCullough  
North Spring Range

Do not authorize domestic sheep grazing in allotments which contain bighorn sheep habitat.

Permitted activities, other than OHV events, will be allowed in bighorn sheep habitat on a case-by-case basis, if consistent with the goals and objectives of the *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988).



Prevent undue and unnecessary degradation of bighorn sheep habitat due to mineral related exploration and development by implementation of the following stipulations:

Surface occupancy stipulations will be implemented on exploration and development of fluid minerals between May 1 and September 30 for any actions within 2 miles of existing or future bighorn waters.

Allow no new road construction or siting of ancillary facilities in lambing habitat.

If mineral activities result in denying access of bighorn sheep to water, or discourage the use of water sources, the operator will be required to provide water at an alternative location during the life of the project.

Monitor bighorn sheep habitat on a 1 to 3 year cycle, depending upon use levels. If average utilization of key forage species exceeds 40 percent, use will be read annually and frequency trend studies will be established and read on a 5 year cycle. Monitoring studies should be located in areas where bighorn sheep, livestock, and/or wild horse and burro use overlaps with bighorn sheep use; also locate monitoring studies in areas used exclusively by bighorn sheep. Monitoring will be conducted to determine accomplishment of goals established in the RMP, HMPs and the BLM's *Rangewide Plan for Managing Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1988).

Designate the River Mountains as an ACEC to provide additional protection to the habitat of the bighorn sheep herd (see Map 3-8).

## DESERT TORTOISE

### Objectives:

Maintain or improve habitat conditions on approximately 970,160 acres of Category I, II, and III desert tortoise habitat (within proposed ACECs) to support current populations of desert tortoise.

Maintain existing habitat conditions in all other areas of desert tortoise habitat to support desert tortoise populations at existing trend levels.

Continue management of the Desert Tortoise Conservation Center as a major desert tortoise research facility. Expand the function of the center to include an environmental education/awareness program, in coordination with other Federal agencies as well as State and local governments.

### Management Direction:

Designate approximately 970,160 acres, identified in Table 2-5, as desert tortoise ACECs (see Map 2-20).

Minimize impacts to tortoise habitat during fire suppression by minimizing the use of mechanized equipment.

Allow reintroduction of wildlife species in ACECs only if such actions will not create conflicts with tortoise populations.

Where tortoise predator problems are suspected, inventory predator populations (including the common raven). Study their food habits and behaviors to determine if predator control would help in maintaining viable tortoise populations. Control predator populations, where necessary, to be consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

Evaluate all BLM-authorized actions to determine if they encourage the proliferation or range expansion of tortoise predator populations. Seek alternative actions or mitigative measures which will minimize the increase or spread of predator populations.

Allow new water developments for wildlife, wild horses, and burros in ACECs only if such developments will not create conflicts with desert tortoise. If conflicts are created, mitigate such conflicts to make the net effects positive or neutral to desert tortoise.

Monitor tortoise populations, tortoise habitats, activity plans, pertinent decisions in land use plans and compliance with relevant stipulations in records of decision to determine the effectiveness of the mitigation.

Within funding constraints, develop additional facilities where appropriate to further enhance the function of the Desert Tortoise Center as an environmental education/awareness and research facility.

Monitor population study plots every 4 or 5 years.

Develop a monitoring program specifically for land use activities that adversely affect tortoise habitats. Use data from the monitoring program to analyze the cumulative impacts of land use decisions on tortoise habitats.

Incorporate the objectives and management actions of the Desert Tortoise Recovery Plan, when completed, into all appropriate activity plans.

Withdraw approximately 634 acres on and adjacent to the Desert Tortoise Conservation Center from public land laws and close the same to locatable minerals and mineral materials.

## **FORESTRY MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **LIVESTOCK GRAZING MANAGEMENT**

### **Objectives:**

Maintain or improve the condition of the vegetation on 1,902,881 acres of public lands available for livestock grazing to a desired plant community or Potential Natural Community (PNC) within 20 years.

Provide for increased plant vigor and reproductive capability of perennial forage on the public rangelands.

Maintain or achieve upward trend of key perennial forage species.

Provide for the continued grazing of domestic livestock on the public lands.

Provide for rehabilitation of the public rangelands after a wildfire, flood or other "natural" disaster.

Provide for development of range improvements, including vegetation treatment, fences, waters, etc., needed to reach more uniform distribution of livestock in order to attain the above objectives.

Improve forage production/utilization so that allotments now classified as "I" can be reclassified to "M".



## Management Areas:

### Closed To Livestock Grazing:

The following areas and allotments will be closed to all livestock grazing (refer to Map 2-11 for locations and boundaries). These areas are either located in urban areas; on lands withdrawn for use by another Federal agency; do not produce adequate amounts of livestock forage; are unmanageable as grazing allotments; have been voluntarily relinquished by the owner of the base property or have not been used in at least 10 years.

Sunrise Mountain, Indian Springs, River Mountains, and Las Vegas Valley Allotments (117,400 acres)  
Ash Meadows, Carson Slough, and Grapevine-Rock Valley Allotments (21,000 acres)  
Spring Mountains and Younts Spring Allotments (252,290 acres)  
Lake Mead National Recreation Area Allotment (10,400 acres)  
Wheeler Slope Allotment (72,277 acres)  
Virgin River Bottom Allotment (90 acres)  
County Line Allotment (6,270 acres)  
Glendale Allotment (22,253 acres)  
Kyle Canyon Allotment (29,620 acres)  
Muddy River Allotment (17,888 acres)  
Newberry Mountains Allotments (BLM=31,764 acres, NPS=37,981 acres)  
Overton Arm Allotment (BLM=2,679 acres, NPS=1,822 acres)  
Pittman Well Allotment (34,192 acres)  
Pulsipher Wash Allotment (3,451 acres)  
South Point Allotment (16,739 acres)  
Stump Springs Allotment (49,557 acres)  
Ute Allotment (29,111 acres)  
Amargosa Valley/Crater Flat (all unallotted areas within southern Nye County) (581,700 acres)

Acreage along Meadow Valley Wash and the Virgin River, including the riparian area and flood plain which totals approximately 2835 acres, and excluding the area withdrawn by the Bureau of Reclamation which encompasses lower Meadow Valley Wash.

### Open to Livestock Grazing:

The remaining 1,902,881 acres of public lands in the planning area are available for livestock grazing, subject to the constraints of desert tortoise requirements.

Most of the allotments containing desert tortoise habitat, comprising approximately 1,593,480 acres, will be available for limited grazing. Grazing prescriptions will be determined through "Section 7" consultation with the US Fish and Wildlife Service. Four of the allotments containing desert tortoise habitat, totaling approximately 558,314 acres, may be conditionally open to grazing, subject to the concurrence of the base property owners.

## Management Direction:

### Initial Stocking Level

The allotments in the planning area, with the exception of the Mt. Stirling allotment, will continue to be classified as ephemeral (see Map 2-12). The number of livestock to be licensed during any particular period will be based upon the availability of total forage, consistent with the season of use and utilization level restrictions identified in the grazing prescriptions. When an application for grazing use is submitted, a

determination of total forage production will be made. Grazing use will be authorized according to the grazing prescription developed for each allotment.

#### Kind of livestock

The kind of livestock to be authorized on each allotment is identified in Table 2-18.

#### Season of Use

The season of use on all allotments is subject to the desert tortoise restrictions "Constraints on Livestock Grazing" section.

#### Grazing Management Actions

Utilization of key forage species will be as specified in the "Constraints on Livestock Grazing" section.

All the allotments classified as "I" and "M" are scheduled for development of allotment management plans (AMPs). These plans will detail management actions, grazing schedules, season(s) of use, initial stocking rates (if any), the schedule of monitoring, and development of needed range improvements.

Until AMP's are developed, water location/availability will continue to be used to control livestock use in many of the allotments. Controlling season of use by livestock is the most effective method of allowing forage species to improve in vigor and begin reproductive functions.

Range improvements, including but not limited to fences, corrals, cattleguards, pipelines, wells, spring developments, water hauls, troughs and earthen reservoirs, will be needed in many allotments to facilitate management of livestock. The need, number, and type of range improvement will be established as allotment management plans are developed.

Use fire management (controlled burning), mechanical or chemical treatment of undesirable vegetation, where practicable or feasible, to improve/increase forage production on the public range.

Rehabilitate areas where vegetation has been destroyed by fire, flood or other disturbances.

#### Constraints on Livestock Grazing

Livestock grazing on allotments which contain desert tortoise habitat will be constrained by stipulations developed as a result of Section 7 consultation, required by the *Endangered Species Act* (see Appendix K). Stipulations will be developed, as needed, for each individual allotment. Intensive monitoring and frequent evaluations will be conducted to determine the need for any change in management.

The following grazing prescriptions will be implemented to meet the habitat needs of the desert tortoise, as those needs are influenced by livestock grazing, consistent with the BLM's *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

**Prescription 1:** In Category I, II, and "intensive" III desert tortoise habitat areas, livestock use will not occur from March 1 to June 14. Utilization between June 15 and October 14 shall not exceed 40 percent on key perennial plant species. Utilization from October 15 to February 28 will not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.



**Table 2-18. Kind of livestock- Alternative D (Preferred Alternative).**

<u>Horses and Cattle</u>	<u>Cattle</u>
Bunkerville	Acton-Farrier
Flat Top Mesa	Arrow Canyon
Lower Mormon Mesa	Azure Ridge
Mesa Cliff	Billy Goat Peak
Upper Mormon Mesa	Black Butte
	Christmas Tree Pass
	Crescent Peak
	Dry Lake
	Gold Butte
	Hen Springs
	Hidden Valley
	Ireteba Peaks
	Jack Rabbit
	Jean Lake
	Lime Spring
	Lucky Strike
	McCullough Mountains
	Mesquite Community
	Mt. Stirling
	Muddy Mountains
	Roach Lake
	Table Mountain
	Wheeler Wash
	White Basin

**Prescription 2:** Within "non-intensive" Category III desert tortoise habitat, livestock use may occur February 15 to October 14, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs and shrubs. Between October 15 and February 14, forage utilization shall not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

**Prescription 3:** Desert tortoise habitats within the Crescent Peak allotment will be managed consistent with the approved AMP. This AMP will be sent to the U.S. Fish and Wildlife Service for Section 7 consultation. Future AMPs will require Section 7 consultation prior to implementation.

All three prescriptions shall include the following key species where appropriate by density and availability: galleta grass (*Hilaria jamesii* and *rigida*), bush muhly (*Muhlenbergia porteri*), sand dropseed (*Sporobolus cryptandrus*), Indian ricegrass (*Oryzopsis hymenoides*), black grama (*Bouteloua eriopoda*), and desert needlegrass (*Stipa speciosa*). Key shrubs species, where appropriate by density, shall be: range ratany (*Krameria parvifolia*), ephedra (*Ephedra* spp.), white burrobrush (*Hymenoclea salsola*) and winterfat (*Eurotia lanata*).

In most cases, where allotments have significant amounts of both intensive and non-intensive management areas, the allotment will be managed according to the category of tortoise habitat affected. In allotments



where the tortoise habitat is predominantly of one category, all tortoise habitat will be managed by the prescription identified for that category. For example, the White Basin allotment contains 169,000 acres of non-intensive Category III habitat but only 3,000 acres of Category II habitat. In this case, all tortoise habitat will be managed per prescription 2. However, in most cases, the grazing prescription will be applied specific to the categories of habitat within the allotment.

Salt and mineral supplements will be placed a minimum of one mile from water.

#### Allotment Categorization

Management categories for each allotment are identified in Table 2-19.

#### Use Adjustment Criteria

Use adjustments for all allotments will be based on results of monitoring studies and determinations made through the allotment evaluation process, as specified in the *Nevada Rangelands Monitoring Handbook* (NRTFS 1984), and as further detailed below.

Utilization monitoring studies in ephemeral allotments will be conducted at least once every three months during the active grazing period to determine utilization levels and potential availability of forage for the next license period. Utilization studies will be conducted at least twice annually in other classified allotments (once in late summer or early fall, and once at the end of the plant dormant period just prior to spring green up). These studies will be conducted at existing key areas. In allotments without established key areas, new key areas will be located by range and wildlife specialists. These new key areas will be established within 3/4 mile from reliable waters where possible and consistent with overall management objectives. If existing key areas are insufficient to adequately monitor potential impacts of grazing on forage resources, additional utilization studies may be added, as determined by an inter-disciplinary team of range and wildlife specialists. Plant species composition represented in the general habitat area should be included in each key area. Use-pattern-mapping will also be conducted on an annual basis. Range monitoring studies will only be conducted on active allotments.

### **WILD HORSE AND BURRO MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

### **CULTURAL RESOURCE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.



**Table 2-19. Allotment management categories-Preferred Alternative.**

<u>Improve (I)</u>	<u>Maintain (M)</u>	<u>Custodial (C)</u>
Azure Ridge	Arrow Canyon	Acton Farrier
Billy Goat Peak	Hen Springs	Black Butte
Bunkerville	Lucky Strike	Dry Lake
Christmas Tree Pass	White Basin	Flat Top Mesa
Crescent Peak		Jack Rabbit
Gold Butte		Lime Spring
Hidden Valley		Lower Mormon Mesa
Ireteba Peaks		Mesa Cliff
Jean Lake		Muddy Mountains
McCullough Mountains		Roach Lake
Mesquite Community		Table Mountain
Upper Mormon Mesa		Toquop Sheep
Wheeler Wash		
Mount Stirling		

## LANDS MANAGEMENT

### Objectives:

Identify approximately 540,171 acres of public lands as available for disposal through sale, color-of-title or R&PP patent to provide for the orderly expansion and development of southern Nevada and to meet the public service needs of individual communities within the planning area.

To provide maximum flexibility in the land disposal program, identify the entire resource area as available for exchange with the exception of the following:

- All ACECs
- All TMAs
- All Category I and II Desert Tortoise Habitat
- All WSAs

### Management Direction:

Encourage local governments and private individuals to purchase environmentally sensitive lands or lands rich in valuable resources which could be exchanged for public lands, thus enhancing Federal land management.

Resolve unauthorized agricultural use or other unauthorized occupancy of the public lands, using whatever applicable authority provides the greatest benefit to the public.

Do not allow disposal of public lands through *Indian Allotment*, *Desert Land Entry* or *The Carey Act* authorization.



Resolve unauthorized use of public lands, where appropriate, by sale, exchange, color-of-title or R&PP patent.

#### Disposal Areas:

The entire planning area as shown on Map 2-33 except as specified in the above objective is available for disposal by exchange.

The location of public lands available for disposal through Section 203 sales, color-of-title, or R&PP patent are shown on Map 2-33 and include the areas shown in Table 2-20 (acres were calculated to scale with a planimeter and rounded to the nearest whole number).

Other lands presently available for disposal only through sale have been identified through special legislation. The location of legislative disposal areas are shown on Map 2-33, and include the following areas:

P.L. 99-548, Mesquite, Nevada Lands Transfer Plan - 2,898 acres

P.L. 101-67, Apex Project, *Nevada Lands Transfer and Authorization Act* of 1989 - 16,867 acres

P.L. 85-339, *Eldorado Valley Act* Lands - 128,401 acres

P.L. 73, *Henderson Sale Area* - 188 acres

P.L. 522, *Henderson Sale Area* - 80 acres

Upon termination of any of the aforementioned legislative withdrawals, any lands remaining in Federal ownership, which meet the disposal criteria, will be made available for disposal through the most appropriate authority.

#### Land Use Authorizations:

All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of ACECs, are available for land use leases and permits under Section 302 of FLPMA. Proposals will be handled in the following manner:

Land use lease or permit applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the public lands involved will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.

Where appropriate and determined to be in the interest of the United States, unauthorized use of public lands may be resolved by authorization of land use leases or permits.

All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of ACECs, are available for airport leases under the authority of the Act of May 24, 1928, as amended. Proposals will be handled in the following manner:

Airport lease applications will be addressed on a case-by-case basis.

If applicable, special terms and conditions regarding use of the public lands involved will be developed on a case-by-case basis through the Stateline Resource Area Specialists review process.



**Table 2-20. Disposal areas- Alternative D (Preferred Alternative).**

<u>Disposal Areas</u>	<u>Acres</u>
Amargosa Desert	43,652
Amargosa Flat/Crystal	17,945
Amargosa Valley	50,179
Dry Lake Valley	26,305
Highland Range	19,700
Goodsprings	800
Jean/Roach Lake	51,999
Las Vegas Valley*	99,391
Lathrop Wells	34,171
Laughlin	12,133
Mesquite	26,584
Moapa/Glendale	49,329
Nelson	3,126
Pahrump	78,318
Sandy	11,339
Searchlight	15,200
<b>Total</b>	<b>540,171</b>

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\*Disposal of the lands identified for sale within the Nellis ABC Wilderness Study Area may be considered only if those lands are dropped from further wilderness consideration.

**Land Classifications/Segregations:**

Valid Existing Management (see Appendix I)

Proposed Classifications/Segregations (see Appendix I)

**Withdrawals:**

Valid Existing Management (see Appendix I)

**Proposed Withdrawals**

Desert Tortoise Conservation Center (634 acres)

Arrow Canyon Archaeological/Paleontological District (part of Coyote Springs/Mormon Mesa ACEC)  
(3,100 acres)

Ash Meadows ACEC (37,078 acres)

Bird Spring Archaeological Site ACEC (160 acres)

Crescent Mining Townsite ACEC (320 acres)



Gold Butte Historic Mining Townsite ACEC (120 acres)  
Hidden Valley Archaeological District ACEC (3,360 acres)  
Keyhole Canyon Rock Art Site ACEC (160 acres)  
Red Rock Spring Archaeological Site (part of Virgin ACEC) (640 acres)  
River Mountains ACEC (14,600 acres)  
Semi-primitive non-motorized ROS areas (276,570 acres)  
Significant caves (no surface occupancy within 1/4 mile) (3,200 acres)  
Sloan Rock Art Site ACEC (320 acres)  
Springs and associated riparian zones (no surface occupancy within 1/4 mile) (2,333 acres)  
Stump Springs ACEC (560 acres)  
Virgin River Riparian Area (part of Virgin ACEC) (2,835 acres)  
Virgin River Anasazi Prehistoric District (5,995 acres)  
Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline- 36,000 acres)

## **NATURAL AREAS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **RECREATION MANAGEMENT**

### **Objective:**

Enhance a full spectrum of diverse recreation opportunities throughout the Resource Area.

### **Management Direction:**

Use the Recreation Opportunity Spectrum and the designation of Recreation Management Areas to facilitate recreation management.

Map 2-15 depicts the locations of the RMAs described below.

### **Special Recreation Management Areas**

The objectives and management direction for Special Recreation Management Areas would be the same as those identified under Alternative A.



## Extensive Recreation Management Areas

### Stateline Extensive Recreation Management Area (ERMA)

#### Objective:

Manage 2,661,907 acres of the Stateline Extensive Recreation Management Area for dispersed and diverse recreation opportunities that meet the objectives of the Recreation Opportunity Spectrum inventory.

#### Management Direction:

Allow OHV competitive events only on designated courses in the following areas:

Dry Lake Valley Area (maximum of five events per year)

Pahrump to Beatty Area (one race per year)

Mercury Area (one race per year)

Highland Hills Area (one race per year)

Laughlin Area (one race per year)

Bitter Springs Area (one race per year)

Allow non-OHV competitive and commercial events and activities throughout the ERMA subject to conflict resolution.

Allow recreation concession leases that benefit the Recreation Opportunity Spectrum inventory management classes.

Prepare a RAMP for the ERMA.

Manage for a full spectrum of dispersed recreation opportunities throughout the ERMA.

Prohibit recreational and target shooting on public lands within the Las Vegas Valley. Legal hunting would be appropriate subject to NDOW regulations.

### Off Highway Vehicle Designations

#### Objectives:

Designate 9,180 acres in the following areas (refer to Map 2-16) as open to motorized uses to provide for maximum opportunities for off-highway vehicle use.

Las Vegas/Nellis Dunes SRMA

Designate 2,524,889 acres, as shown on Map 2-16, as limited to existing roads and trails to provide for a high level of off-highway vehicle use. This designation will provide a moderate level of protection from

OHV-related impacts for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and other legitimate users of the public land.

Designate 1,124,868 acres in the following areas, as shown on Map 2-16, as limited to designated roads and trails. This designation would provide a moderate level of off-highway vehicle use, while affording a high level of protection from OHV-related impacts for wildlife habitat, cultural resources, hydrological and soil resources, recreation opportunities, and other legitimate users of the public land.

Amargosa Mesquite ACEC  
Arrow Canyon Archaeological/Paleontological District ACEC  
Ash Meadows ACEC  
Big Dune ACEC (that portion shown on Map 2-16)  
California Wash ACEC  
Coyote Springs Valley ACEC  
Crescent Mining Town Site ACEC  
Gold Butte Historic Mining Town Site ACEC  
Indian Springs ACEC  
Ivanpah ACEC  
Mormon Mesa ACEC  
Old Spanish Trail/Mormon Road Trail  
Pahrump Valley ACEC  
Piute Valley ACEC  
Red Rock Canyon ACEC  
Red Rock Springs Archaeological Site ACEC  
River Mountains ACEC  
Sloan Rock Art Site ACEC  
Sunrise Mountain ACEC  
Virgin ACEC (that portion shown on Map 2-16)

Designate 12,190 acres in the following areas, as shown on Map 2-16, as closed to motorized uses to provide a maximum level of protection from OHV-related impacts for wildlife habitat, cultural resources, hydrological and soil resources, non-motorized recreation opportunities, and other legitimate users of the public land.

Hidden Valley District ACEC  
Virgin ACEC (that portion shown on Map 2-16)

#### Cave Management

The objectives and management direction would be the same as those identified under Alternative A.

#### **WILD AND SCENIC RIVERS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.



## RIGHTS-OF-WAY MANAGEMENT

### Objectives:

To provide an orderly system for transportation, communications, major utility transmission lines, and related facilities which meets public demand, while reducing impacts to sensitive resources.

### Management Direction:

#### Utility/Transportation Corridors

Retain the following designated corridors as valid existing management:

Numerous corridors established within the Apex sale area by P.L. 101-67, consisting of existing powerline rights-of-way ranging from 300 feet to 1800 feet in width, for a total length of approximately 32 miles.

That corridor established in Coyote Springs Valley through the Aerojet legislation being 1 mile wide and approximately 4 miles long.

Designate the following corridors:

A corridor for those lands under right-of-way reservation in the Moapa Indian Reservation Legislation extending 1500 feet westerly of the right-of-way for the Reid Gardner-Pecos transmission lines through the area 1500 feet easterly of the right-of-way for the Navajo-McCullough transmission line, approximately 13 miles in length.

A corridor, 2 miles in width and 2 miles in length, passing through the Sunrise ISA. Activation and use of this corridor is contingent upon Congressional action releasing the ISA from further wilderness consideration and study.

See Map 2-34 for the location of corridors designated in this alternative. An approximate total of 529,301 acres is involved, including legislative designations and the proposed Sunrise Mountain designation. The corridors range in width from 1 mile to 3 miles for a total length of approximately 536 miles. The corridor segment beginning at the intersection of US 95 and SR 160 and extending east to the Las Vegas area and the "beltway" corridor surrounding Las Vegas (see Map 2-36) is restricted to powerlines less than 250 kv in size. All other corridor segments in the planning area are restricted to powerlines 250 kv and larger (see Map 2-34).

Corridors not considered:

The corridor entering Nevada at Nipton Road and designated as Contingent Corridor W in the California Desert Conservation Area Plan (CDCAP), dated 1980, will not be carried forward in this alternative. The 1988 *Mojave National Scenic Area Management Plan* recommended elimination of the corridor; this was accomplished by a plan amendment to the CDCAP.

Corridor K-G described and identified in the *Esmeralda-Southern Nye RMP* (1986) will not be carried forward in this alternative. This area is constrained by natural and man-made features including mountains, the Amargosa River, the Low-Level Nuclear Waste Site, and the town of Beatty. An adjacent corridor to the east of this area has the capability to handle foreseeable future powerlines.

The corridor designated along the eastern boundary of U.S. Highway 93 between the Aerojet Conveyance Area and the Apex Project Area will not tie into the corridor designated inside the west boundary of the project area. Per an industry request, the corridor will stop approximately 5 miles short of the project area, continue east, and tie into the corridor extending southwesterly from the Moapa Indian Reservation.

#### Corridor Terms and Conditions:

No newly designated corridor will be over 3 miles in width. Within ACECs, newly designated corridors will be limited to 2 miles in width.

No rights-of-way will be authorized within corridors designated in WSAs or ISAs until Congress releases them from further wilderness consideration and study.

When feasible, and where compatible, major pipeline rights-of-way will be placed within powerline corridors.

If the Sunrise ISA is dropped from further consideration, the corridor running through that area will be limited to transmission lines 250kv and larger.

#### Right-of-Way Avoidance Areas

The management direction under this alternative would be the same as that identified for Alternative A.

#### Right-of-Way Exclusion Areas

Linear right-of-way exclusion areas in the Stateline Resource Area would be limited to the following:

Hidden Valley District ACEC

Sloan Rock Art ACEC

Big Dune ACEC

All ACECs are designated as areal right-of-way exclusion areas, including material site rights-of-way.

#### Areal Rights-of-Way

See Map 2-7 for the present location of existing established communication sites that will be carried forward in this alternative.

The management direction under this alternative would be the same as that identified for Alternative A.

#### Trespass Resolution

The management direction under this alternative would be the same as that identified for Alternative A.

### **WILDERNESS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.



### Areal Rights-of-Way

See Map 2-7 for the present location of existing established communication sites that will be carried forward in this alternative.

The management direction under this alternative would be the same as that identified for Alternative A.

### Trespass Resolution

The management direction under this alternative would be the same as that identified for Alternative A.

## **WILDERNESS MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **MINERALS MANAGEMENT**

Map 2-35 (a-d) indicates the locations of the mineral management areas described below.

### **Objectives:**

To provide for orderly exploration and development of minerals on Federally owned mineral estate whether or not the surface estate is in Federal ownership.

### **Management Direction:**

Allow fluid mineral leasing subject to standard terms and conditions on 531,844 acres.

Allow fluid mineral leasing subject to seasonal and other minor constraints on 3,936,500 acres.

Do not allow fluid mineral leasing on 216,746 acres.

Allow locatable mineral activity on 4,008,868 acres.

Do not allow locatable mineral activity on 632,065 acres.

Allow saleable mineral disposal on 4,035,390 acres.

Do not allow saleable mineral disposal on 606,538 acres.

Allow mineral leasing on 4,448,329 acres.

Do not allow mineral leasing on 216,746 acres.

Renew existing sand and gravel leases in a manner consistent with court action on the sand and gravel leasing amendment to the 1984 *Clark County MFP*.

Deny existing sand and gravel lease applications.

Fluid Minerals (4,685,090 acres)

Areas open subject to standard terms and conditions (531,844 acres)

All of the remainder of the Stateline Resource Area, except those areas closed to leasing, those areas open to leasing subject to no surface occupancy and other similar major constraints, and those areas open to leasing subject to seasonal and other minor constraints (614,944 acres).

Areas open subject to seasonal or other minor constraints (3,936,500 acres)

Bighorn sheep habitat not closed to leasing (closed from May 1 through September 30) (869,800 acres)

Desert tortoise habitat not closed to leasing (closed from March 1 through June 15) (3,066,700 acres)

Areas closed to leasing ( 216,746 acres)

Valid Existing Closures ( 216,746 acres)

Locatable Minerals (4,640,933 acres)

Areas open to the operation of the mining laws (4,008,868 acres)

All of the remainder of Stateline Resource Area, except those areas closed to the operation of the mining laws (4,008,868 acres).

Areas closed to the operation of the mining laws subject to valid existing rights (632,065 acres).

Valid Existing Closures (432,087 acres)

Arrow Canyon Archaeological/Paleontological District (part of Coyote Springs/Mormon Mesa ACEC) (3,100 acres)

Ash Meadows ACEC (37,078 acres)

Bird Spring Archaeological Site ACEC (160 acres)

Crescent Mining Townsite ACEC (320 acres)

Desert Tortoise Conservation Center (634 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Goodsprings/Jean land disposal area (14,520 acres)

Hidden Valley Archaeological District ACEC (3,360 acres)

Keyhole Canyon Rock Art Site ACEC (160 acres)

Laughlin land disposal area (11,495 acres)

Nelson land disposal area (6,424 acres)



Red Rock Spring Archaeological Site (part of Virgin ACEC) (640 acres)

River Mountains ACEC (14,600 acres)

Sandy Valley land disposal area (11,315 acres)

Searchlight land disposal area (5,483 acres)

Sloan land disposal area (7,926 acres)

Sloan Rock Art Site ACEC (320 acres)

Within 1/4 mile of significant caves and karst resources (3,200 acres)

Within 1/4 mile of springs and associated riparian zones (2,333 acres)

Stump Springs ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin River Riparian Area (part of Virgin ACEC) (2,835 acres)

Virgin River Anasazi Prehistoric District (5,995 acres)

Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile each side of trail centerline-36,000 acres)

Mineral Materials (4,641,928 acres)

Areas open to mineral materials disposal and authorization/renewal of material site rights-of-way (4,035,390 acres)

All of Stateline Resource Area, except those areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (4,035,390 acres).

Areas closed to mineral materials disposal and authorization/renewal of material site rights-of-way (606,538 acres)

Valid Existing Closures (145,586 acres)

Arrow Canyon Archaeological/Paleontological District (part of Coyote Springs/Mormon Mesa ACEC) (3,100 acres)

Ash Meadows ACEC (37,078 acres)

Bird Spring Archaeological Site ACEC (160 acres)

Crescent Mining Townsite ACEC (320 acres)

Desert Tortoise Conservation Center (634 acres)

Gold Butte Historic Mining Townsite ACEC (120 acres)

Hidden Valley Archaeological District ACEC (3,360 acres)

Keyhole Canyon Rock Art Site ACEC (160 acres)

Red Rock Canyon ACEC (83,100 acres )

Red Rock Spring Archaeological Site (part of Virgin ACEC) (640 acres)

River Mountains ACEC (14,600 acres)

Semi-primitive non-motorized ROS areas (276,570 acres)

Sloan Rock Art Site ACEC (320 acres)

Stump Springs ACEC (560 acres)

Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)

Virgin River Riparian Area (part of Virgin ACEC) (2,835 acres)

Virgin River Anasazi Prehistoric District (5,995 acres)

Non-Energy Leasable Minerals (4,665, 075 acres)

Areas open to non-energy mineral activities (4,448,329 acres)

All of Stateline Resource Area, except those areas identified below as closed to non-energy mineral activities  
(4,448,329 acres)

Areas closed to non-energy mineral activities (216,746 acres)

Valid Existing Closures (216,746 acres)

**ACQUISITIONS MANAGEMENT**

**Objectives:**

To secure on-the-ground access to otherwise inaccessible public lands.

To acquire private lands that enhance the management of adjacent BLM lands and the protection of sensitive or valuable resources.

**Management Direction:**

Access Needs

Obtain an easement on or across the Pabco Tram Road.



### Land Acquisition Needs

Where the lands are available and the current owner is willing, the BLM will attempt to acquire these lands:  
(a pool of approximately 9,049 acres)

All private lands within designated ACECs (includes Red Rock Canyon National Conservation Area) - approximately 8,634 acres

All private lands within the Ash Meadows ACEC but outside of the refuge boundary - approximately 415 acres

### **FIRE MANAGEMENT**

The objectives and management direction under this alternative would be the same as those identified for Alternative A.

## **SPECIAL MANAGEMENT AREAS**

See Map 2-20 for the locations of the ACECs described below. Total acreage of proposed ACECs is approximately 1,151,938 acres in 18 areas.

### **1. PIUTE VALLEY ACEC (same as Alternative A)**

**Values:** Category I and II desert tortoise habitat, teddy bear cholla (*Opuntia biglovii*).

**Acreage:** 189,900 acres total  
148,000 acres Category I habitat  
41,900 acres Category II habitat

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal lands where available within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate. Each application will be subject to environmental review and the development of appropriate mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:** (applies to entire ACEC, 189,900 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

##### **Range management:**

Per Section 7 consultation.

##### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.



**Recreation/OHV:** (includes part of Christmas Tree Pass SRMA)

Limit motorized uses to designated roads and trails.

Prohibit all non-competitive and competitive OHV events. Non-OHV competitive and commercial events and activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

No developed recreational facilities will be allowed in Category I and II tortoise habitat.

No recreation concession leases will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Piute Valley and Christmas Tree Pass population study plots (PSP) every 4 to 5 years.

## **2. IVANPAH ACEC**

**Values:** Category II desert tortoise habitat, Category I candidate plant species (*Opuntia whipplei* var. *multigeniculata*).

**Acreage:** 147,860 acres of Category II tortoise habitat

### **Resource constraints:**

#### **Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate. Each application will be subject to environmental review and the development of appropriate mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 147,860 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:** (includes a portion of Jean/Roach Dry Lakes SRMA)

Limit motorized uses to designated roads and trails.

Do not allow OHV permitted events in the ACEC. Other appropriate commercial permitted activities allowed on a case-by-case basis, consistent with the goals and objectives of the Desert tortoise rangewide plan.



No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Sheep Mountain PSP once every 4-5 years.

Survey for and monitor populations of *Opuntia whipplei* var. *multigeniculata*.

### **3. PAHRUMP VALLEY ACEC**

**Values:** Category II desert tortoise habitat.

**Acreage:** 116,600 acres Category II tortoise habitat

**Resource constraints:**

**Lands:**

Acquire non-federal lands where available within Category II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate. Each application will be subject to environmental review and the development of appropriate mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to the entire ACEC, 116,600 acres)

Open to 1872 *Mining Law*. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

**Range management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:**

Limit casual OHV use to designated roads and trails.

Do not allow OHV permitted events in the ACEC. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).

No recreation concession leases will be allowed.



No developed recreational facilities will be allowed.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and *Endangered Species Act*.

Monitor tortoise populations in Pahrump Valley by reading the Trout Canyon PSP once every 4 to 5 years.

#### 4. COYOTE SPRINGS VALLEY/MORMON MESA ACEC

**Values:** Category I, II, and III desert tortoise habitat and Arrow Canyon archeological/paleontological district.

Cultural Resources - The archaeological portion of the district consists of hundreds of rock art panels along the canyon walls. The paleontological part consists of embedded tracks of extinct birds.

**Acreage:** 299,300 acres total  
141,000 acres Category I habitat  
88,500 acres Category II habitat  
69,000 acres Category III habitat  
800 acres other (cultural sites)

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal lands where available within Category I, II and III tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors. Rights-of-way may be granted if determined appropriate. Each application will be subject to environmental review and the development of appropriate mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC except for Arrow Canyon archeological/paleontological district, 296,200 acres)

Open to 1872 Mining Law. Mitigation for impacts to desert tortoise habitat will be required during the plan of operation stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

Arrow Canyon archeological/paleontological district- 3,100 acres

Close to 1872 *Mining Law*. Mitigation for impacts to cultural will be required during the plan of operation stage on valid existing rights.

Close to mineral materials disposal.

Close to non-energy mineral leasing.

Close to fluid mineral leasing subject to minor constraints.



**Range management:**

Per Section 7 consultation.

**Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

Do not allow new roads in the Arrow Canyon archeological/paleontological district, 3,100 acres.

**Recreation/OHV:**

Motorized uses will be limited to designated roads and trails.

Prohibit all OHV competitive events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the Desert tortoise rangewide plan.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Cultural/Paleontological:**

A plan for specimen recovery at the Bird Tracks Area will be required for any Federal actions.

Monitor for impacts to the sites from recreational uses or natural erosion.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations in the ACEC by reading the Coyote Springs PSP and the Mormon Mesa PSP once every 4 to 5 years.

## 5. VIRGIN ACEC

### Values: Threatened and Endangered Species

Category I and II desert tortoise habitat

Two endangered fish (woundfin and Virgin River roundtail chub)

Potential peregrine falcon habitat

### Other Wildlife Habitat

The diversity of botanical resources in the area results in a high diversity of all wildlife species. The Virgin Mountains provide habitat for desert bighorn and mule deer, and the Virgin River provides waterfowl habitat.

### Cultural and Historic Resources

The Virgin River Anasazi Prehistoric District is a series of pueblos and pit structures situated on terraces that overlook the river. These structures were constructed by the Virgin Anasazi who farmed the floodplain from about A.D. 500 to 1150.

The area also contains numerous shelter caves and agave roasting pits used by aboriginal hunter-gatherers including the Virgin Anasazi and the ancestors of the contemporary Paiute. Archaeological remains from the Paiute and Anasazi are also found at Red Rock Spring. A dam and storage room built into the rock formations in historic times remain at Whitney Pocket.

There are several old mining sites of historic interest and value in the northern portion of the ACEC.

### Botanical Resources

The area supports a number of unusual botanical resources, including a small isolated stand of Douglas fir in the Virgin Mountain area, unique in its location as the southern-most extension in Nevada and the only occurrence in Clark County, small isolated stands of white fir and ponderosa pine, and the only known occurrence of Arizona cypress in Nevada. The Virgin Mountains support a high diversity of botanical resources because of their location in the transition zone between the Great Basin, Mojave, and Sonoran desert biomes. The Virgin River supports the largest area of riparian habitat administered by the BLM in the planning area.

### Scenic Quality

The area contains a vast array of scenic values and contrasts including pinyon/juniper woodlands, exposed sandstone formations, rugged topography, and outstanding panoramas of the surrounding deserts and Lake Mead.

### Geologic Resources

Devil's Throat is a sinkhole approximately 165 feet deep and 100 feet in diameter; this formation possesses scientific value in that sinkholes are uncommon in desert environments. In addition,



Devil's Throat has been designated as a Natural hazard Area because of the danger it poses to the public.

**Acreage:** approximately 216,500 acres total

Category I habitat- 77,000 acres

Category II habitat- 68,000 acres

Within 1/2 mile of Devil's Throat-approximately 500 acres, within Category I tortoise habitat.

Virgin River Anasazi Prehistoric District and Virgin River- 5,000 acres (approximately 196 acres of aquatic/riparian habitat)

Virgin Mountains (potential peregrine habitat)- 46,000 acres

20,500 acres other (will be treated as Category II tortoise habitat for management purposes)

**Resource constraints:**

**Lands:**

If available, acquire non-federal lands within Category I and II tortoise habitat.

Designate as a right-of-way avoidance area except within designated corridors and the existing communication site on Virgin Peak. Rights-of-way may be granted if determined appropriate and after environmental review and development of mitigation measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:**

Virgin River Anasazi Prehistoric District and Virgin River floodplain (approximately 8,830 acres)

Close to the operation of the mining laws. A plan of operation is required on valid existing rights and impacts to cultural resources will be mitigated.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

Tortoise habitat ( 203,800 acres)

Open to the mining laws. Mitigation of impacts to desert tortoise habitat will be required during the plan of operation stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to minor constraints.

## **Virgin Mountains Natural Area**

Open to the mining laws.

Open to mineral materials disposal.

Open to non-energy leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

### **Range management:**

Close the Virgin River floodplain to livestock grazing. Water would be provided either through the use of water gaps or establishment of alternate sources.

Grazing will be conducted per Section 7 consultation.

### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions, except in the Virgin River and cultural sites, where no new roads would be allowed.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

### **Forest and woodlands management:**

Prohibit the removal of live trees in the ACEC.

Prohibit the removal of dead or down firewood in the ACEC.

### **Recreation/OHV:**

Virgin River floodplain and Virgin River Anasazi Prehistoric District are closed to all OHV use.

In the remainder of the area, OHV use will be limited to designated roads and trails.

Prohibit all competitive and non-competitive OHV events in the area. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Desert Tortoise Rangeland Plan* (USDI, BLM 1988).

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed within Category I and II tortoise habitat, Virgin River Anasazi Prehistoric District, Virgin River floodplain, and the Virgin Mountain Natural Area.

Fence and install interpretive signing at Devil's Throat.

Study the Virgin River for wild and scenic values.



Manage the area for semi-primitive motorized recreation opportunities including hiking, camping, hunting, horseback riding, interpretation, picnicking, photography, and nature study.

Develop one campground/picnic facility in the White Rock area.

Manage the area for VRM Management Class II scenic values.

**Fire management:**

Prohibit the use of heavy equipment (graders, bulldozers, front end loaders, etc.) to extinguish wild fires.

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.

**Other:**

Manage consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988) and the *Endangered Species Act*.

Monitor tortoise populations by reading the Gold Butte PSP every 4 to 5 years.

Revise the *Virgin River Habitat Management Plan* to include T&E objectives consistent with the *Virgin River Recovery Plan*, riparian objectives, waterfowl objectives, an analysis of the present situation and management prescriptions.

Prepare a tamarisk management plan that includes an analysis of potential management prescriptions.

Delineate the extent and characteristics of the Virgin River riparian zone, including tamarisk encroachment, in order to identify improvement potential.

Where available, acquire instream water rights.

Where available, acquire water rights to springs and manage as natural riparian systems.

Monitor water quality and bring into compliance with EPA standards.

Monitor for impacts to cultural sites from recreational uses or natural erosion.

## **6. ASH MEADOWS ACEC**

**Values:** Thirteen special status plant and animal species and essential habitat for a unique wetlands/meadow ecosystem.

**Acreage:** 37,078.3 acres of BLM land  
480.0 acres private inholdings  
37,078.3 acres total (pending withdrawal of 9,243 acres by FWS)  
27,835.3 final anticipated total

### **Resource constraints:**

#### **Lands:**

Acquire private lands within the ACEC, but outside the refuge boundary, when such lands are available (approximately 500 acres).

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and development of mitigation measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

Include 9,243 acres of BLM inholdings in the Ash Meadows NWR in the ACEC, pending withdrawal by FWS.

Transfer 9,243 acres of BLM inholdings within the Ash Meadows NWR boundary to the U.S. Fish and Wildlife Service.

**Minerals:** Applies to entire ACEC- 37,078

Close to the operation of the mining laws.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

The following allotments will be closed to all livestock grazing:

Ash Meadows Allotment  
Carson Slough Allotment  
Grapevine-Rock Valley Allotment



**Wild Horse and Burro management:**

Ash Meadows Herd Area will be managed for a population level of zero animals. Horses and burros will be removed as expeditiously as possible from Ash Meadows Herd Area.

**Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through OHV designations.

**Recreation/OHV:**

Do not allow competitive OHV events. Other commercial permitted activities will not be allowed.

Casual OHV use will be limited to designated roads and trails.

No recreation concession leases will be allowed.

No developed recreational facilities will be allowed.

**Other:**

Manage the ACEC consistent with the goals and objectives of the *Ash Meadows Recovery Plan*.

Develop a cooperative agreement with the U.S. Fish and Wildlife Service for management of the Ash Meadows ACEC.

## **7. BIG DUNE ACEC**

**Values:** Four candidate invertebrate species, three of which are endemic to the dunes.

**Acreage:** 1,000 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and development of mitigation measures.

#### **Minerals:** Applies to entire ACEC- 1,000 acres

Open to the operation of the mining laws. Mitigation for impacts to candidate species will be required during the plan of operations stage.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to standard terms and conditions.

#### **Range management:**

Amargosa Valley and Crater Flat will be closed to livestock grazing.

#### **Roads and access:**

Allow new roads only on a temporary basis.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Recreation/OHV:** (includes Big Dune SRMA)

Allow no competitive OHV events. Other commercial permitted activities will be allowed on a case-by-case basis, consistent with BLM policy for managing habitats of candidate species. OHV use will be restricted to designated areas.

Prepare a Recreation Activity Management Plan for Big Dune SRMA concurrent with the ACEC management plan.

Sign the dunes with interpretive signs.

#### **Other:**

Manage consistent with BLM policy for managing habitats of special status species.



## **8. RIVER MOUNTAINS ACEC**

**Values:** Desert bighorn sheep, scenic viewshed for Boulder City and Henderson.

**Acreage:** 14,600 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area, except within the designated corridor. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

Authorization of future communication site rights-of-way will be limited to the following:

Existing established communication sites.

No future communication site rights-of-way will be granted on any individual established communication site until a site management plan has been approved for that site.

Access will be by existing roads or helicopter only.

#### **Minerals:** (applies to entire ACEC-14,600 acres)

Close to the operation of the mining laws. A mining plan of operations will be required and impacts to desert bighorn sheep will be mitigated.

Open to fluid mineral leasing subject to seasonal constraints.

Closed from May 1 through September 30 within 2 miles of both existing and future big game water developments.

Open to non-energy mineral leasing.

Close to mineral material disposal.

#### **Range management:**

Manage consistent with the goals and objectives of the *Rangewide Plan for Managing the Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1984).

Livestock grazing will not be allowed on the River Mountain Allotment.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

**Recreation/OHV:**

Motorized uses will be limited to designated roads and trails.

Do not allow competitive OHV events. Other appropriate commercial permitted activities will be allowed on a case-by-case basis, consistent with the goals and objectives of the *Rangewide Plan for Managing the Habitat of Desert Bighorn Sheep on Public Lands* (USDI, BLM 1984).

No recreation concession leases will be allowed.



## **9. AMARGOSA MESQUITE ACEC**

**Values:** Rare vegetative community and high value as wildlife habitat.

**Acreage:** 9,600 acres.

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of facilities shall be co-located whenever possible and feasible.

#### **Minerals:**

Open to the operation of the mining laws. A mining plan of operations would be required.

Open to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Allow new roads only on a temporary basis in response to specific permitted actions.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

#### **Forest and woodlands management:**

Monitor annually and allow limited firewood harvest if it is consistent with the goals and objectives of the ACEC management plan and the woodlands management plan. Strictly regulate firewood harvest by marking individual trees for harvest.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

**Other:**

Manage primarily for wildlife values with firewood harvest as needed to meet wildlife goals and objectives.



## **10. HIDDEN VALLEY DISTRICT ACEC**

**Values:** Cultural Resources - Rock art, rockshelter, and camp site district in the Muddy Mountains.

**Acreage:** 3,360 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 3,360 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Closed to all OHV use.

Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **11. STUMP SPRINGS PREHISTORIC/HISTORIC SITE ACEC**

**Values:** Cultural Resources - This is a complex consisting of several food processing loci and campsites reflecting prehistoric mesquite collection practices. It was also a spring stop on the historic *Old Spanish Trail/Mormon Road*.

**Acreage:** 560 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 560 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **12. SLOAN ROCK ART SITE ACEC**

**Values:** Cultural Resources - Several hundred petroglyph panels are found along the canyon walls for a distance of more than one-half mile.

**Acreage:** 320 acres

### **Resource constraints:**

#### **Lands:**

Designate the entire ACEC as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

### **13. CRESCENT MINING TOWNSITE ACEC**

**Values:** Cultural Resources - The remains of structural features and the artifacts from a short-lived, early 20th century mining town are present.

**Acreage:** 320 acres

#### **Resource constraints:**

##### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

##### **Minerals:** (applies to entire ACEC, 320 acres)

Close to the operation of the mining laws. Plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

##### **Range management:**

No Section 7 consultation.

##### **Roads and access:**

Do not allow new roads.

##### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

##### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



#### 14. RED ROCK CANYON ACEC

**Values:** Outstanding scenic values including, a textbook example of a thrust fault, outstanding desert riparian habitats, a 3,000 foot escarpment of sandstone, and Pine Creek Research Natural Area, desert bighorn sheep, desert tortoise habitat (Category II). Significant cultural resources include the Brownstone Canyon National Register Archaeological District, consisting of a rare pictograph rock art panel, shelters, roasting pits and two historic dams. Other prehistoric and historic cultural resource sites include Sandstone Quarry, Willow Spring, Lost Creek and Red Spring. The area also includes *Angelica scabrida*, a Category I candidate species, and *Opuntia whipplei* var. *multigeniculata*, a Category I candidate species found on Blue Diamond Hill, just outside the current RRCNCA boundary.

**Acreage:** 83,100 acres.

#### **Resource constraints:**

##### **Lands:**

Acquire non-federal inholdings where available by exchange or purchase.

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

**Minerals:** (applies to entire ACEC, 83,100 acres)

Close to mineral material disposal.

##### **Range management:**

Close to livestock grazing.

##### **Roads and access:**

New roads will be allowed only in response to approved site plans and activity plans.

As funding and time permits, rehabilitate existing roads which are closed through the OHV designation process.

##### **Forest and woodlands management:**

No disposal of native vegetation or woodland products.

##### **Recreation:**

Limit OHV use to designated roads and trails.

Do not allow competitive OHV permitted events in the ACEC. Other appropriate commercial or competitive activities will be allowed on a case-by case basis, consistent with the goals and objectives of the Recreation Activity Plan.

**Other:**

Manage Category II tortoise habitat consistent with the goals and objectives of the *Desert Tortoise Rangewide Plan* (USDI, BLM 1988).



## **15. GOLD BUTTE HISTORIC MINING TOWNSITE ACEC**

**Values:** Cultural Resources - Historic site consisting of the remains of a small tent town from the first decade of the 20th century.

**Acreage:** 120 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 120 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **16. KEYHOLE CANYON ROCK ART SITE ACEC**

**Values:** Cultural Resources - Fenced archaeological site containing numerous petroglyphs.

**Acreage:** 160 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 160 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.



## **17. BIRD SPRING ARCHAEOLOGICAL SITE ACEC**

**Values:** Cultural Resources - Large rockshelter and deep midden. Test excavation in 1982 indicated that data contained in this site could enhance the understanding of regional prehistory.

**Acreage:** 160 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area. Rights-of-way may be granted if determined appropriate and after environmental review and the development of mitigative measures. All rights-of-way granted within this area will be subject to the standard terms and conditions for such authorizations as well as the following special terms and conditions:

Similar types of utilities shall be co-located whenever possible and feasible.

#### **Minerals:** (applies to entire ACEC, 160 acres)

Close to the operation of the mining laws. A plan of operations will be required on valid existing rights to mitigate impacts to cultural resources.

Close to mineral materials disposal.

Open to non-energy mineral leasing.

Open to fluid mineral leasing, subject to standard terms and conditions.

#### **Range management:**

Per Section 7 consultation.

#### **Roads and access:**

Do not allow new roads.

#### **Recreation/OHV:**

Casual OHV use will be limited to designated roads and trails.

No competitive OHV events will be allowed. Other commercial permitted activities will be allowed on a case-by-case basis.

#### **Other:**

Monitor for impacts to the sites from recreational uses or natural erosion.

## **18. SUNRISE MOUNTAIN ACEC**

**Values:** Cultural Values - Gypsum Cave is located in the northeastern portion of the area and contains some of the earliest evidence of human occupation in southern Nevada.

Scenic Quality - Outstanding scenic values in the Rainbow Gardens area. Unique volcanic outcrops colored in red hues contrasting with black volcanics. Outstanding panoramas of the surrounding deserts and Lake Mead.

Botanical Values - Two special status plant species are located in the Sunrise Mountain area: *Arctomecon californica* (bearpoppy) and *Agave utahensis* var. *eborispina* (century plant).

Historic Mining - The historic Frenchman mine is located in the southwestern portion of the ACEC.

Wildlife Values - Desert bighorn sheep and desert tortoise reside throughout the Sunrise Mountain area.

Geologic Values - The Frenchman Mountain/Rainbow Gardens area is featured in many introductory geology textbooks and is visited each year by many geologists and students. The area is significant because it is an excellent example of crustal extension and contains extraordinary exposures of Paleozoic and Mesozoic strata. In addition, the area has been published in a guidebook to the 100 most significant and accessible geologic localities in the western U.S. and Canada by the Geologic Society of America.

**Acreage:** 31,400 acres

### **Resource constraints:**

#### **Lands:**

Designate as a right-of-way avoidance area except for one designated corridor. Rights-of-way may be granted if determined appropriate after environmental review and identification of mitigative measures.

Designate one location for communication sites.

#### **Minerals:**

Open to fluid mineral leasing, subject to standard terms and conditions.

Close to operation of the mining laws.

Close to mineral material disposal.

Open to non-energy mineral leasing.



**Roads and access:**

New roads would only be allowed if approved through an activity plan, plan of operation, or other use authorizations.

As funding and priorities permit, rehabilitate existing roads which become closed through the OHV designation process.

**Recreation/OHV:**

Manage the area for the following recreation opportunities: mountain bike riding, hiking, camping, horseback riding, interpretation, picnicking, photography, and nature study.

Limit motorized uses to designated roads and trails.

Prohibit competitive OHV events. Other non-OHV competitive and commercial permitted events and activities and recreation concession leases are appropriate.

Prepare a RAMP.

Determine an appropriate area for the development of a camping and picnicking facility.

Designate a Back Country Byway within the SRMA.

Prohibit recreational and target shooting within the SRMA. Legal hunting would be appropriate subject to NDOW regulations.

**Fire management:**

Prescribed fire would be allowed only if the fire enhances the scenic, vegetative, and wildlife values in the ACEC.



## **CHAPTER 3**

### **AFFECTED ENVIRONMENT**







## CHAPTER 3

### AFFECTED ENVIRONMENT

#### INTRODUCTION

This chapter describes the environmental components of the planning area which could be impacted by the implementation of the alternatives. These include lands, minerals, soils, water resources, air quality, vegetation, wildlife habitat, wild horses and burros, livestock grazing, paleontological and cultural resources, visual resources, recreation, wilderness, natural areas, and socio-economic conditions. Much of the data contained within this chapter is drawn from the more detailed *Analysis of the Management Situation* (AMS), available for public review at the Stateline Resource Area and Las Vegas District offices of the BLM.

#### PHYSICAL DESCRIPTION OF THE PLANNING AREA

##### Physiography

The topography and drainage of Clark County and southern Nye County are characteristic of the Basin and Range Province, with internally draining basins separated by ranges, hills, and mesas. The trend of the ranges is not always uniform, but a general north-south orientation is apparent. The Las Vegas Valley cuts diagonally across much of Clark County, following a line of north-trending ridges which bend toward the west at the northern end of the valley and toward the east in the south. The Grand Wash Cliffs, a few miles beyond the eastern edge of Clark County, mark the boundary between the Basin and Range Province and the Colorado Plateau Province. Most of the planning area lies within the Colorado River Basin and is externally drained by the Colorado River and its tributaries. The remaining portions drain either to the Central Region or Death Valley.

The mountain ranges, generally composed of exposed bedrock, are steep and cut by deep ravines. They rise abruptly above smooth and gently sloping basin floors. Erosional forces transport materials downslope from the mountains. This alluvium coalesces into extensive fans along the margins of the valleys and basins. These deposits are now being actively eroded and dissected by many deep gullies. Elevations in the planning area range from approximately 11,900 feet above sea level (ASL) at Charleston Peak, the fifth highest peak in Nevada, to approximately 500 feet in the vicinity of Laughlin.

Lowlands comprise a large percentage of the total surface area. A few of the large valleys, including the Muddy and Virgin Valleys, drain into the Colorado River system. Others, such as the Amargosa Valley, Indian Springs Valley, Dry Lake Valley, Eldorado Valley, and the upper portion of the Las Vegas Valley, are enclosed basins with no external drainage.

The geologic history of southern Nevada has included repeated periods of deposition, uplift, igneous activity, and erosion since the Paleozoic, which ended approximately 250 million years ago. Thick sequences of marine sedimentary deposits accumulated throughout Paleozoic and Mesozoic times; these strata are exposed in the vividly colored formations of the Red Rock Canyon Recreation Lands (RRCRL), west of Las Vegas.

Approximately 50 million years ago, thick volcanic materials were extruded over broad areas of the region, then were uplifted and deformed by faulting. Since the mountain building periods, southern Nevada has been geologically quiet, with activity restricted largely to depositional and erosional forces.



## **Climate**

The Stateline Resource Area has the arid climate characteristic of southern Nevada. The Sierra Nevada Range of California and the Spring Mountains, west of the Las Vegas Valley, act as a barrier to moisture-laden storms moving inland from the Pacific Ocean. Air masses are cooled as they ascend the western slopes of these ranges. Precipitation is lost prior to the descent of these masses into the warmer valleys. At lower elevations, the average annual precipitation ranges from 4 to 8 inches; at higher elevations, the average varies from 12 to 20 inches. Maximum precipitation normally falls between November and March, when an average of 40 to 60 percent of annual amounts are received. Minimum precipitation occurs in May, June, September, and October. During July and August, thunderstorms are common, contributing between 25 and 30 percent of annual precipitation. These storms are often of sufficient intensity to produce localized flash flooding.

Evaporation rates are extremely high in southern Nevada. Losses from surface waters, as a result of high temperatures, low humidity, abundant sunshine, and the effects of wind, greatly exceed precipitation. At Lake Mead, for example, the annual loss is nearly 20 times the annual gain from precipitation.

The lowest elevations of the planning area are located within the Mohave Desert, one of the few genuine hot desert areas in the United States. The winters are mild, with daytime temperatures reaching an average maximum of 60 degrees F and nighttime temperatures averaging 35 to 45 degrees F. Summers are hot, with daytime maximum temperatures averaging 95-105 degrees F and nighttime temperature minimums from 70 to 75 degrees F. Southern Nevada also has a high percentage of sunny days per year; in Las Vegas, 85 percent of the year can be expected to be sunny.

## **AIR RESOURCES**

Air quality is determined by several factors, including landforms, the amount of contaminants emitted into the atmosphere, and by meteorological conditions. In southern Nevada, stable atmospheric conditions, low mixing heights, and light winds provide opportunities for contaminants to accumulate, especially during the early hours of the day.

The Environmental Protection Agency (EPA), the State of Nevada, and the Clark County Health District have established ambient air quality standards in Clark County. Air quality is generally considered acceptable if pollutant levels are less than or equal to established standards on a continuous basis. The Las Vegas Valley, presently exceeds standards for some pollutants and, consequently, has been termed a nonattainment area (an area which exceeds any national ambient air quality standards). Map 3-1 identifies the boundary of the Las Vegas Valley Non-Attainment Area. This area currently exceeds Federal ambient air quality standards for total suspended particulates and carbon monoxide. Table 3-1 shows source categories for emissions in Clark County.

Sparse population and few pollution sources characterize many of the outlying areas in the Stateline Resource Area. As a result, these localities have good air quality, generally meeting Federal and state quality standards.

## **SOILS**

Throughout the Stateline Resource Area, there is a sharp contrast in physiography between mountainous areas and interior lowlands. Soils in the region have developed under different environmental influences. Under the arid conditions which prevail at all but the highest elevations, little downward movement of the soluble constituents of the soil occurs. Most leaching is confined to the translocation of the soluble material (usually lime) from the surface to the subsoil, with the resultant formation of a hardpan. These soluble salts are usually leached only to a depth of 1 to 2 feet.



Table 3-1. Clark County air pollution control district emissions by source categories.

<u>Source Category</u>	<u>CO</u>	<u>TSP</u>	<u>NOX</u>	<u>VOC</u>
Chemical Process Industries	146	50	---	220
Metallurgical Industries				
Titanium	10,000	53	346	4
Manganese Dioxide	18	22	44	---
Mineral and Mining				
Lime Manufacturing	160	90	241	---
Asphalt Plants	1	35	8	22
Gravel Mining	---	86	---	---
Concrete Ready Mix	---	22	---	---
Gravel Crushing/Screening	---	912	---	---
Combustion of Fuels				
Power Plants	914	195	7,684	13.5
Large Commercial	45	23	226	18
Fireplaces	300	60	---	25
Residential and				
Small Commercial	79	39	394	32
Other Industrial	101	15	395	36
Waste Burning Incinerator	*	---	---	---
Miscellaneous Sources				
Cigarette Smoking	190	---	---	45
Food Preparation	250	---	---	60
Motor Vehicles				
On-Road	110,500	1,540	9,700	14,200
Off-Road	2,400	240	621	500
Railroads	360	63	1,500	370
Aircraft				
Commercial	2,100	---	900	980
Military	1,600	---	550	440
Piston	851	---	4	30
Large Appliance MFR	---	22	2	---
Fugitive Dust				
Fires	---	52	---	---
Cleared Areas	---	2,200	---	---
Paved Roads	---	10,600	---	---
Unpaved Roads	---	7,700	---	---
Other Area Sources	---	550	---	---
Construction/Demolition	---	14,700	---	---
Natural Sources (Desert)	---	5,304	---	---
Petroleum				
Petroleum Storage	---	---	---	216
Gasoline Stations	---	---	---	1,480



Table 3-1. (concluded).

<u>Source Category</u>	<u>CO</u>	<u>TSP</u>	<u>NOX</u>	<u>VOC</u>
ORGANIC SOLVENT USE				
Surface Coating				191
Painting Spray Booth	---	---	---	172
Architectural Coating	---	---	---	8
Miscellaneous	---	---	---	89
Dry Cleaning	---	---	---	131
Degreasing	---	---	---	
Other				
Cutback Asphalt	---	---	---	97
Printing	---	---	---	36
Miscellaneous	---	---	---	1
<b>TOTAL</b>	<b>130,015</b>	<b>44,714</b>	<b>22,615</b>	<b>19,416.5</b>
<p>Note: CO (Carbon Monoxide)  TSP (Total Suspended Particulate Matter)  NOX (Oxides of Nitrogen)  VOC (Volatile Organic Compounds)</p> <p>* Negligible</p> <p>(Source: Clark County Department of Comprehensive Planning, 1980)</p>				

In this climate, rocks tend to break down by disintegration rather than by decomposition. Mechanical breakdown (spalling) is more common than chemical action. As a result, mountains are covered with a thin veneer of rock fragments. Cloud bursts and showers sweep large quantities of this material into ravines and valleys, forming alluvial fans of the coarser material. Finer-grained sediments are washed into the lowlands.

Wind is also an active agent in soil genesis. Wind-blown sand is common, with the greatest accumulations found in the lower valleys, often forming dunes. Wind-blown silts, mixed with the fine alluvium washed down from the slopes, comprises the soil mantle of the valleys. The term "blow sand" arises from the fact that much of the surface soil is wind-deposited.

Organic matter in most desert soils is far less than the average 3 to 5 percent by weight contained in soils formed in humid regions. Even in a wet year when spring annuals are abundant, much of the vegetal matter is oxidized by the summer heat before it can be turned into humus. A gravelly surface, referred to as "desert pavement", is common throughout the planning area. This surface is stable and resistant to erosion. Erosion is normally active on surfaces lacking a desert pavement. The sparse cover of vegetation does little to reduce wind and water velocities. Wind erosion is a major factor in recharging surface soils with carbonates through the movement and deposition of calcareous dusts.

Soils of the SRA are primarily Entisols and Aridisols; a few Mollisols occur at the upper elevation of mountain ranges and on high plateaus. These are described in detail below and depicted on Map 3-2. The Entisols have



little or no evidence of development of pedogenic horizons. They are located in areas where the soils are actively eroding (steep slopes) or receiving new deposits of soil materials (alluvial fans and floodplains).

Aridisols have one or more pedogenic horizons that may have formed in the present environment or that may be relics from a former pluvial period. These soils do not have water available to plants for long periods of time and the surface is generally bare. Aridisols are often associated with desert pavement.

Mollisols are the very dark colored, base rich soils of high latitudes. A few Mollisols are found high in the Spring Mountains and the Sheep Range. They may also occur above approximately 5,000 feet in the Virgin Mountains, the Gold Butte area, and at other locations where environmental conditions permit the accumulation of organic materials.

### **Soil Erosion**

Erosion susceptibility is a measure of the erosion potential of a soil whose surface has been disturbed. Wind and water erosion potential are used to determine susceptibility in an area. Soil surveys conducted by the Soil Conservation Service (SCS) were used in the development of erosion susceptibility ratings for those portions of the SRA; this data is shown on Map 3-3. Approximately 90,550 acres in the planning area have a high erosion susceptibility rating, 1,306,620 acres have a moderate rating, and 1,480,440 acres have a low rating.

Erosion condition data have been compiled from several inventories, including the Watershed Conservation and Development (WCD) program (BLM 1977) and the *Clark County Range Survey* (USDI, BLM 1979). Determinations of a soil surface factor were used to portray the erosion condition of an area. Erosion condition ranges from slight to critical, with most of the area falling into the slight to moderate erosion condition classes (see Map 3-4). Over 96,990 acres are in critical erosion condition, 1,286,420 in slight erosion condition, and 36,970 acres are in stable erosion condition; the remainder is undetermined.

## **WATER RESOURCES**

The planning area contains portions of three hydrographic regions or basins: the Central Region, the Colorado River Basin, and the Death Valley Basin. As shown in Table 3-2, these three regions are further divided into 28 hydrographic areas which are totally or partially contained within the resource area (see Map 3-5).

The Central Region is a topographically closed drainage system primarily located in Nevada. The eight hydrographic areas within this region are, for the most part, internally drained.

All but three of the 15 hydrographic areas within the Colorado River Basin are tributary to the Colorado River. Garnet Valley (area 216) and Hidden Valley (area 217) are topographically closed, but are totally surrounded by areas which drain to the Colorado River. The southern part of Three Lakes Valley (area 211), the third non-contributing hydrographic area, discharges flood water out of Lee Canyon onto an alluvial fan. Depending on which channel the flood water enters, the flow goes either to the Colorado River or to the dry lake within the southern part of Three Lakes Valley.

Within the SRA, four hydrographic areas occur within the Death Valley Basin. These are all tributary to Death Valley in California.

### **Surface Water**

Surface water sources are far less abundant than groundwater in the planning area. There are only four major perennial streams (greater than one-half mile in length), Meadow Valley Wash, the Muddy River, the Virgin River, and the Las Vegas Wash, all located within the Colorado River drainage. Meadow Valley Wash originates in



**Table 3-2. Hydrographic areas.**

<u>Central Region</u>	
161	Indian Springs Valley
162	Pahrump Valley
163	Mesquite Valley
164a	Ivanpah Valley - Northern Part
164b	Ivanpah Valley - Southern Part
165	Jean Lake Valley
166	Hidden Valley South
167	Eldorado Valley
<u>Colorado River Basin</u>	
205	Lower Meadow Valley Wash
210	Coyote Spring Valley
211	Three Lakes Valley - Southern Part
212	Las Vegas Valley
213	Colorado River Valley
214	Piute Valley
215	Black Mountains Area
216	Garnet Valley
217	Hidden Valley - North Part
218	California Wash
219	Muddy River Springs Area
220	Lower Moapa Valley
222	Virgin River Valley
223	Gold Butte Area
224	Greasewood Basin
<u>Death Valley Basin</u>	
225	Mercury Valley
226	Rock Valley
227a	Forty-Mile Canyon - Jackass Flats
229	Crater Flat
230	Amargosa Desert

Lincoln County and joins the Muddy River near Glendale, Nevada. It is characterized by peak flows in February and March, when snow melt occurs. Mean annual flow, measured at the Caliente gaging station, is recorded at 11.5 cubic feet per second (cfs). Perennial flow in the Muddy River originates in springs located southeast of Arrow Canyon, a distance of approximately 25 miles from Lake Mead. Mean annual flow, measured at the Glendale, Nevada gaging station, is 44.6 cfs, with a recorded low flow of 7.6 cfs (1964) and peak flow of 16,400 cfs in 1981.

The Virgin River is fed by tributaries from the Tule Desert, Beaver Dam, and Sand Hollow Washes, as well as many drainages in the Virgin and Mormon Mountains. Streamflow of the Virgin River is measured at a gaging station in Littlefield, Arizona and shows a mean annual stream flow of 242 cfs.



Las Vegas Wash is supplied with water from springs, runoff channeled during rains, and water from the Las Vegas Sewage Treatment Plant. Heaviest flow occurs during the winter months, when the most precipitation falls and evapotranspiration rates are lowest. Mean annual flow has been measured at 51.7 cfs, with a peak discharge of 6,510 cfs recorded in 1975.

Numerous ephemeral washes transect the planning area, conveying flows only after storms. High intensity thunderstorms often produce rapid runoff and "flash" flooding which can result in floodwater and sediment damage within the region. Most damage on BLM-administered lands is in the form of gully cutting and sheet erosion. Destruction on state and private lands is more severe, including damage to roads and highways, croplands, and residential areas.

Within the resource area, springs are important water sources. The Las Vegas District Water Resource Inventory (1983) identified 200 springs on public lands within the boundaries of the SRA. Table 3-3 lists the locations and discharge for each spring source. The average flow of these springs is 4.3 gallons per minute (gpm), with some springs being nothing more than a seep area with no discernable flow, while others measured as high as 75 gpm.

### **Ground Water**

The importance of ground water systems is obvious in this region of few surface water sources. Tables 3-4 and 3-5 display important ground water statistics for the 28 hydrographic areas contained within the planning area. The most important water-bearing stratum is valley fill alluvium. Although numerous springs are found in association with sandstone or carbonate rock layers, development of these aquifers is relatively difficult.

As is the case throughout most areas of the arid West, water is a limited resource in southern Nevada and its availability has been impacted by human population growth. Of the 27 hydrographic basins wholly or partially contained within the SRA, 17 have committed resources which exceed perennial yield. These basins are in a water overdraft situation, with the situation in the Las Vegas Valley recently receiving state and national media attention.

The Las Vegas Valley is currently experiencing rapid growth and development. Heavy demands are being placed on an already over-utilized water resource. Entities within the Valley obtain water from both groundwater sources and the Colorado River. The groundwater system within the Las Vegas Valley has been in an overdraft condition since 1945. In 1989, approximately 64,550 acre feet of groundwater was extracted from the principal aquifer, far exceeding the estimated recharge/perennial yield of 25,000 acre feet. An artificial recharge project was initiated in 1987 and resulted in the injection of 3,677 acre feet of potable Colorado River water back in to the Valley's groundwater basin in 1989. The project reduced the net groundwater withdrawal to 60,877 acre feet, still far exceeding annual recharge/perennial yield. This groundwater withdrawal represents 20 percent of the Las Vegas Valley's water withdrawals, with the remaining 80 percent (243,281 acre feet) obtained from surface waters, as Nevada's entitlement to waters of the Colorado River.

Most ground water recharge in southern Nevada is derived from winter and spring precipitation, representing approximately one-half of the total annual precipitation. The moisture is stored in snowpack, at elevations of 7,000 to 8,000 feet and higher. Precipitation reaches the groundwater reservoirs by way of streams which eventually discharge onto alluvial aprons or by infiltrating directly into consolidated rock and percolating vertically and laterally to the valley fill aquifer. Additional inflow is received from localized intense storms and ground water discharge from adjacent areas. Such interbasin movement is described in Table 3-3. Natural discharge of ground water in the basins occurs as a result of transpiration from phreatophytes (deeply rooted plants that obtain water from the water table or the soil layer just above it), spring discharge, evaporation from bare soil, interbasin flow, and base flow to streams such as the Virgin River, Muddy River, and Las Vegas Wash.



Table 3-3. Known springs within Stateline Resource Area.

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Discharge (gpm)</u>
Hough	15S	65E	11	1.0
Juanita	15S	69E	15	0.75
Seep	15S	70E	2	---
Rabbit	15S	70E	9	1.0
Government	15S	70E	9	2.4
Dud	15S	70E	12	---
Jumps	15S	70E	14	12.0
North Key West	15S	70E	16	0.1
South Key West	15S	70E	21	0.1
N. Fork/Nickel Creek	15S	70E	30	9.0
Cabin Canyon 2	15S	71E	4	10.0
Hen	15S	71E	6	---
Cabin Canyon 1	15S	71E	9	12.0
Unnamed	15S	71E	16	---
Wiregrass	15S	71E	16	2.0
Cedar	15S	71E	17	3.0
Nickel Creek	15S	71E	18	15.0
Black Rock	15S	71E	19	7.5
White Rock	15S	71E	19	1.0
Lime 2	15S	71E	21	75.0
Indian	15S	71E	33	10.5
Lime	15S	71E	34	37.5
Unnamed	16S	71E	8	---
Cabin	16S	71E	17	0.1
Unnamed	16S	71E	19	2.5
Billygoat	16S	71E	21	2.0
Rattlesnake	16S	71E	28	0.1
Pussy Willow	16S	71E	33	0.1
South	16S	71E	34	2.0
Ash Tree	17S	49E	35	3.0
Dozer	17S	50E	10	2.0
Soda	17S	50E	10	45.0
Artesian	17S	50E	14	10.0
Chalk	17S	50E	26	1.0
Scruggs 2	17S	50E	35	60.0
Scruggs 1	17S	50E	35	40.0
Unnamed	17S	50E	35	8.0
Marsh	17S	50E	35	50.0
Mexican Seep	17S	50E	35	0.1
School	17S	50E	35	5.0
Kwichup	17S	53E	17	0.4
Unnamed	17S	67E	2	0.1
Red Bluff	17S	69E	14	5.0
Red Rock	17S	70E	7	---
Jackrabbit	18S	51E	18	1.0



Table 3-3. (continued)

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Discharge (gpm)</u>
Unnamed	18S	51E	29	2.8
Bole	18S	51E	30	0.15
Unnamed	18S	51E	30	0.5
Last Chance	18S	51E	30	0.1
Unnamed	18S	51E	30	0.1
Grassy	18S	58E	32	0.25
Schumacher	18S	58E	33	---
Horse	18S	70E	24	0.5
Grapevine	19S	50E	2	0.03
Grapevine	19S	58E	16	0.25
Bitter	19S	67E	16	5.0
Unnamed	19S	67E	18	0.1
Perkins	19S	69E	1	0.5
Maynard	19S	69E	20	2.0
Mockingbird	19S	69E	21	---
Quail	19S	69E	22	1.0
Agua Chiquita	19S	69E	29	1.0
Catclaw	19S	69E	30	1.0
Bills	19S	70E	10	---
Granite	19S	70E	17	0.1
Grapevine	19S	70E	34	0.5
Julie's	19S	71E	6	1.25
Summit	19S	71E	18	0.1
New	19S	71E	29	0.2
Connoly (Diamond)	19S	71E	30	0.5
Unnamed	19S	71E	31	2.0
Klup	20S	56E	31	6.0
Clay Bank 2	20S	57E	25	6.0
Unnamed	20S	57E	36	0.1
Unnamed	20S	57E	36	0.25
Sheep	20S	57E	3	5.5
Unnamed	20S	57E	36	0.25
Unnamed	20S	57E	36	0.1
South Fork	20S	57E	36	17.5
D.J.	20S	58E	18	0.1
Unnamed	20S	58E	19	---
Unnamed	20S	58E	29	0.1
La Madre	20S	58E	29	20.0
Unnamed	20S	58E	30	---
Willow	20S	58E	33	0.35
Gypsum	20S	63E	14	1.0
Fairbanks	20S	69E	3	0.25
Cataract	20S	69E	6	---



Table 3-3. (continued)

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Discharge (gpm)</u>
Rattlesnake	20S	69E	13	---
Taylor	20S	69E	15	0.1
Gann	20S	69E	15	5.0
Walker	20S	69E	21	5.0
Turkey	20S	69E	24	---
Ruby	20S	69E	25	1.5
Willow	20S	70E	8	2.0
Jumbo	20S	70E	16	3.0
Twin	20S	70E	19	15.0
Unnamed	21S	53E	15	---
Appaloosa	21S	56E	19	60.0
Unnamed	21S	56E	19	11.0
Unnamed	21S	57E	1	4.25
Unnamed	21S	57E	1	0.1
Unnamed	21S	57E	12	2.25
South	21S	57E	25	0.1
Ash Creek	21S	58	1	0.1
Little Creek	21S	58E	1	0.1
Lost	21S	58E	4	15.0
Unnamed	21S	58E	6	2.0
Lone Pine	21S	58E	7	1.5
Switchback	21S	58E	7	3.0
Unnamed	21S	58E	8	3.5
Box Canyon	21S	58E	9	1.5
Oak Creek	21S	58E	21	15.0
First Creek	21S	58E	33	10.0
Calico	21S	59E	6	0.2
Red	21S	59E	6	8.0
Unnamed	22S	54E	15	---
Heart	22S	58E	3	0.1
Sandstone 2	22S	58E	5	0.1
Sandstone	22S	58E	5	0.1
Rainbow	22S	58E	7	---
Bootleg	22S	58E	7	0.5
Sandstone 2	22S	58E	14	6.0
Mud 1	22S	58E	14	0.2
LM	22S	58E	14	---
Unnamed	22S	58E	15	0.1
Red Rock Seeps	22S	58E	15	0.1
Unnamed	22S	58E	16	0.1
Moonshine	22S	58E	22	2.0
Red Rock Seeps	22S	58E	22	2.0
Lone Grapevine	22S	58E	22	10.0
Mud 2	22S	58E	23	1.5



Table 3-3. (continued)

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Discharge (gpm)</u>
Bighorn	22S	58E	29	0.1
Wheeler Camp	22S	59E	7	18.0
Stump	23S	55E	5	---
Wilson Tank	23S	58E	24	0.12
Unnamed	23S	62E	27	---
Unnamed	23S	62E	27	---
Unnamed	23S	62E	27	---
Unnamed	24S	58E	6	0.25
Cave	24S	58E	6	---
Bird	24S	59E	4	1.0
Eagle Water	25S	63E	36	0.1
Forlorn Hope	25S	64E	1	0.1
Unnamed	25S	64E	34	0.2
Bridge	25S	64E	34	0.1
McClanahan	26S	61E	8	0.3
Catclaw	26S	61E	17	0.1
Mesquite	26S	61E	22	0.1
Lone Pine	26S	61E	22	---
McCullough	26S	61E	26	0.3
North Railroad	26S	61E	31	0.25
Unnamed	26S	61E	31	0.75
Rock	26S	62E	27	---
Horse	26S	62E	28	---
Rock Seep	26S	62E	34	0.1
Desert Queen	26S	63E	13	---
Huse	26S	64E	11	20.0
Prospect	26S	64E	22	0.1
Knob Hill	26S	64E	29	0.12
Unnamed	26S	64E	29	0.1
Tule	26S	64E	33	---
Unnamed	26S	64E	8	0.3
Lucy Grey 1	27S	60E	36	---
Unnamed	27S	61E	4	4.5
South Railroad	27S	61E	18	1.0
Tubbs	27S	61E	18	---
Granite	27S	61E	20	0.5
Pine	27S	61E	28	0.5
Big Pine	27S	61E	28	0.1
Lucy Grey 3	27S	61E	30	0.5
Unnamed	27S	61E	33	1.0
Ora Hanna	27S	62E	5	0.3
Highland	27S	62E	16	0.75
Deadhorse	27S	62E	21	0.1
Thomas	27S	62E	23	0.1



Table 3-3. (concluded).

<u>Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Discharge (gpm)</u>
Unnamed	27S	62E	23	0.1
Cow	27S	62E	26	0.1
Unnamed	27S	62E	26	0.1
Grasshopper	27S	64E	5	0.25
Unnamed	27S	64E	11	4.0
Unnamed	27S	64E	12	20.0
Unnamed	27S	64E	12	---
Jonah	27S	64E	14	15.0
Unnamed	27S	64E	14	10.0
Scotts Well	28S	60E	1	---
Bullion	28S	61E	20	0.1
Burro	28S	61E	26	---
Summit	28S	64E	31	---
Lewis Holes	30S	62E	15	0.1
Roman	31S	65E	4	1.0
Yellowstone	31S	65E	4	0.75
Unnamed	31S	65E	16	0.25
Rattlesnake	31S	65E	16	2.0
Cottonwood	31S	65E	17	6.0
Cottonwood	31S	65E	28	0.1
Hiko	32S	65E	12	3.0
Quail	32S	65E	14	0.5
Flapos	32S	65E	15	---
Granite	33S	65E	15	0.25

The quality of ground water varies throughout the planning area, as it does in the remainder of the state. In general, groundwater in areas of recharge has low chemical concentrations, but as it moves through the ground water system to discharge areas (i.e. valley bottoms), it dissolves sediments and rock materials. The extent to which chemical constituents are dissolved is largely determined by these factors: 1) the solubility, volume, and distribution of the materials; 2) the length of time that the water is in contact with the materials; 3) the distance that the water travels from the point of recharge; and 4) the temperature and pressure within the ground water system.

Little is known about ground water quality in much of the Stateline Resource Area. Several of the hydrographic basins have been investigated at varying levels of intensity. Prior research has focused primarily on the Las Vegas Valley due to its large urban population. The shallow aquifers within the Las Vegas Valley are generally in poor quality. Total Dissolved Solids (TDS) concentrations are as high as 8,000 parts per million (ppm). Such high concentrations are to be the result of recharge from landscape irrigation and possible seasonal fluctuations in the water levels of the shallow aquifers. The concentrations of TDS have increased over the last few years. High nitrate concentrations also contribute to the poor quality of the more shallow aquifers. In the deeper aquifers (200 to 450 foot depths) of the Las Vegas Valley, water quality varies by geographic location. In the northern and western portions of the valley, TDS concentrations average 200 ppm, with a calcium-magnesium-



Table 3-4. Ground water statistics, with inflow/outflow data.

<u>Area Number</u>	<u>Hydrographic Area Name</u>	<u>Ground Water Inflow</u>		<u>Ground Water Outflow</u>	
		<u>Acre Feet Per Year</u>	<u>From Area Number1</u>	<u>Acre Feet Per Year</u>	<u>From Area Number1</u>
<b>CENTRAL REGION</b>					
161	Indian Springs Valley	22,000	158A, 168 211	32,000	160
162	Pahrump Valley	0	---	13,000	162,CA
163	Mesquite Valley	700	162	Minor	CA
164	No. Ivanpah Valley	800	CA	1,500	165,212
164	So. Ivanpah Valley	0	---	500	CA
165	Jean Lake Valley	1,500	164	>100	212,166
166	So.Hidden Valley	Minor	165	Minor	167,212
167	Eldorado Valley	Minor	165	1,100	213
<b>COLORADO RIVER BASIN</b>					
205	Lower Meadow Valley Wash	Minor	203	7,000	218
210	Coyote Spring Valley	>35,000	206, 209	37,000	219
211	Three Lakes Valley	4,700	212	10,700	161
212	Las Vegas Valley	Minor	105, 166	5,100	211, 215
213	Colorado River Valley	1,300	167, 214	200	Colorado River
214	Piute Valley	0	---	1,100	CA
215	Black Mtn. Area	400	212, 218	<100	Lake Mead
216	Garnet Valley	400	217	800	218
217	No.Hidden Valley	0	---	400	216
218	California Wash	7,800	205, 216	Minor	218, 220
219	Muddy River Springs Area	37,000	210	Minor	218
220	Lower Moapa Valley	Minor	218	1,100	Lake Mead



Table 3-4. (concluded).

<u>Area Number</u>	<u>Hydrographic Area Name</u>	<u>Ground Water Inflow</u>		<u>Ground Water Outflow</u>	
		<u>Acre Feet Per Year</u>	<u>From Area Number1</u>	<u>Acre Feet Per Year</u>	<u>From Area Number1</u>
COLORADO RIVER BASIN					
222	Virgin River Valley	3,000	221, AZ	40,000	Lake Mead
223	Gold Butte	0	—	1,000	Lake Mead
224	Greasewood Basin	0	—	600	AZ
DEATH VALLEY BASIN					
225	Mercury Valley	16,000	160	17,000	230
226	Rock Valley	17,000	160, 227A	17,000	230
229	Crater Flat	1,500	228	1,700	230
230	Amargosa Desert	44,000	225, 226 227A, 229	19,000	Death Valley
<hr/>					
1 See Map 3-5					
(Source: State of Nevada 1971).					

bicarbonate consistence. Groundwater in the southern and southwestern portions of the valley is a sodium-potassium-bicarbonate type with an average TDS concentration of 1,500 ppm. A mixed-cation sulfate type water of generally poor quality characterizes the remainder of the deep aquifer system in the Las Vegas Valley. Further degradation of this system can be anticipated, as the lowering of the water table accelerates the infiltration of poor quality water into adjacent aquifers.

The other hydrographic basins in the SRA exhibit groundwater quality characteristics similar to the Las Vegas Valley. Water quality deteriorates from the higher areas to the valley bottoms. Measurements from Mesquite Valley, Ivanpah Valley, Jean Lake Valley, and Lower Meadow Valley Wash indicate a significant increase in TDS, with ranges from 0 ppm to 10,000 ppm, as groundwater flows toward the natural discharge areas in the valley bottoms. Other constituents contributing to the poor quality water include sulfate, chloride, fluoride, and boron.

The BLM Water Resources Inventory (1983) identified 67 wells that have been drilled on public lands within the boundaries of the Stateline Resource Area. These wells provide permanent and reliable water in an arid environment where natural water sources, such as springs and seeps, are often unpredictable or intermittent.



**Table 3-5. Ground water recharge data.**

Hydrographic Area Number/Name <sup>1</sup>	Recharge from PPT. <sup>2</sup> Acre Feet Per Year	E/T <sup>3</sup> Rate Acre Feet Per Year	Ground Water Budget Ac.ft./yr.	Ground Water Yield Ac.ft./yr.	Ground Water Storage Ac.ft./ft. <sup>4</sup>
<b>CENTRAL REGION</b>					
161/Indian Springs Valley	10,000	Minor	32,000 <sup>a</sup>	500 <sup>c</sup>	18,000
162/Pahrump Valley	22,000	10,000	22,000 <sup>a</sup>	12,000 <sup>c</sup>	23,000
163/Mesquite Valley	1,400	2,200	2,200 <sup>a</sup>	2,200 <sup>c</sup>	7,000
164A No./Ivanpah Valley	700	0	1,500 <sup>a</sup>	700 <sup>c</sup>	7,400
164B So./Ivanpah Valley	500	0	500 <sup>a</sup>	250 <sup>c</sup>	1,000
165/Jean Lake Valley	100	0	100 <sup>a</sup>	50 <sup>c</sup>	3,200
166/So. Hidden Valley	Minor	0	Minor <sup>a</sup>	Minor <sup>c</sup>	800
167/Eldorado Valley	1,100	0	1,100 <sup>a</sup>	500 <sup>c</sup>	14,000
<b>COLORADO RIVER BASIN</b>					
205/Lower Meadow Valley	1,300	1,400	8,400 <sup>a</sup>	5,000 <sup>c</sup>	28,000
210/Coyote Springs Valley	1,900	Minor	37,000 <sup>a</sup>	18,000 <sup>c</sup>	18,000
211/Three Lakes Valley	6,000	0	10,700 <sup>a</sup>	5,000 <sup>c</sup>	8,600
212/Las Vegas Valley	25,000	24,000	30,000 <sup>a</sup>	25,000 <sup>c</sup>	34,000
213/Colorado River Valley	200	Large	200 <sup>a</sup>	Minor <sup>c</sup>	11,000
214/Piute Valley	1,100	0	1,100 <sup>a</sup>	600 <sup>c</sup>	12,000
215/Black Mtn. Area	<100	1,200	12,000 <sup>b</sup>	7,000 <sup>d</sup>	15,000
216/Garnet Valley	400	0	800 <sup>a</sup>	400 <sup>c</sup>	5,000
217/No. Hidden Valley	400	0	400 <sup>a</sup>	200 <sup>c</sup>	1,500
218/California Wash	<100	1,700	43,000 <sup>b</sup>	36,000 <sup>d</sup>	10,000
219/ Muddy River Springs Area	<100	Some	37,000 <sup>a</sup>	37,000 <sup>c</sup>	2,500
220/Lower Moapa Valley	<50	11,000	35,000 <sup>b</sup>	35,000 <sup>d</sup>	8,000
222/Virgin River Valley	3,600	30,000	170,000 <sup>b</sup>	100,000 <sup>d</sup>	29,000
223/Gold Butte Area	1,000	Minor	1,000 <sup>a</sup>	500 <sup>c</sup>	10,000
224/Greasewood Basin	600	Minor	600 <sup>a</sup>	300 <sup>c</sup>	2,000

### Water Quality

In southern Nevada, one of the critical water resource problems is the poor quality of much of the surface and ground water. Several factors contribute to the high quantities of chemicals and solids in the regional water. High evaporation rates leave concentrations of salts at or near the soil surface after rainfall. The composition of rocks and soils, often containing calcium, magnesium, carbonates, silicates, metallic and nonmetallic minerals, also affects water quality. As water moves slowly into and through the soil profile, it dissolves and acquires these constituents. A water quality sampling program was initiated in 1979 to obtain baseline water quality data



Table 3-5. (concluded).

Hydrographic Number/Area Name <sup>1</sup>	Recharge from Ppt. <sup>2</sup> Acre Feet Per Year	E/T <sup>3</sup> Rate Acre Feet Per Year	Ground Water Budget Ac.ft./yr.	Ground Water Yield Ac.ft./yr.	Ground Water Storage Ac.ft./ft. <sup>4</sup>
<b>DEATH VALLEY BASIN</b>					
225 Mercury Valley	250	0	17,000 <sup>a</sup>	8,000 <sup>c</sup>	Minor
226 Rock Valley	30	0	17,000 <sup>a</sup>	8,000 <sup>c</sup>	1,500
229 Crater Flat	220	0	1,700 <sup>a</sup>	900 <sup>c</sup>	3,500
230 Amargosa Desert	600	24,000	43,000 <sup>a</sup>	34,000 <sup>c</sup>	35,000

<sup>1</sup>See Map 3-5.  
<sup>2</sup>Precipitation.  
<sup>3</sup>Evapotranspiration - total of evaporation and plant transpiration.  
<sup>4</sup>Storage per foot thickness of saturated zone.  
<sup>a</sup>Ground water inflow and outflow is an element of this budget.  
<sup>b</sup>Ground water and surface water inflow and outflow are elements of this budget.  
<sup>c</sup>Maximum amount of ground water that can be salvaged each year without depleting the ground water reservoir.  
<sup>d</sup>Maximum amount of surface and ground water that can be obtained each year from all sources within a system for an indefinite period of time.

(Source: State of Nevada 1971).

for Clark County. Samples were collected in spring, summer, and fall and analyzed for biological, chemical, and physical parameters. The primary and secondary drinking water standards, as defined by the Environmental Protection Agency were applied to these samples. These standards refer to the maximum contaminant levels allowable for public water supplies, which if exceeded, could adversely affect public health.

Results of the three sampling periods indicate that most springs had water that does not meet the Federal drinking water standards. The major contaminant in the water from 60 of the 64 springs was found to be coliform bacteria, generally considered to be an indicator of fecal contamination. Fecal coliform bacteria, which form a portion of the total coliform group, are restricted to the intestinal tracts of warm-blooded animals and carry disease-causing organisms.

Levels for turbidity, total dissolved solids, sulfate, chloride, manganese, iron, and nitrate nitrogen also exceeded Federal standards in several springs. Many of these levels do not pose health hazards; only nitrate nitrogen is potentially dangerous, having been found to cause methemoglobinemia (blue babies) in infants.

The State of Nevada has established various water quality criteria for designated beneficial uses; within the planning area, quality standards have been set for the Colorado, Virgin, and Muddy Rivers, as well as Meadow Valley Wash, the Las Vegas Wash, and Lake Mead. Water quality information for the Virgin River, the Muddy



**Table 3-6. Salinity contributions of the Colorado River Basin.**

<u>Contributing Drainage Basin</u>	<u>Drainage Area</u> (sq. mi.)	<u>Mean Flow</u> (cfs)	<u>Mean TDS</u> (mg/l)	<u>Mean Annual Salt Load</u>		
				<u>(Tons/ year)</u>	<u>(% of NV total)</u>	<u>(Tons/ sq.mi.)</u>
Virgin River: at Littlefield, <u>above Halfway Wash</u>	5,100 <u>6,000</u>	440 <u>380</u>	1,700 <u>2,000</u>	740,000 <u>750,000</u>	— <u>—</u>	150 <u>120</u>
Nevada portion	900	60	---	10,000	3	11
Muddy River: near Overton	4,300	11	2,300	25,000	9	6
Las Vegas Wash: near Boulder City	1,600	100	2,200	220,000	78	140
Estimates for Lake Mead ephemeral tributaries				2,000	1	
Estimated aeolian <u>fallout</u>				<u>26,000</u>	<u>9</u>	
<b>Sum of Nevada contributions</b>				<b>283,000</b>	<b>100</b>	

(Source: USGS 1988)

River, Meadow Valley Wash, and Las Vegas Wash has been collected by the U.S. Geological Survey (1988). Of those constituents monitored, both the Virgin and Muddy Rivers were found to exceed both Federal Drinking Water Standards and the State Standards for total dissolved solids and fecal coliforms.

Salinity contributions of the Colorado River Basin have become an area of concern within the SRA. Estimates of the salt amounts contributed by the Nevada portion of the Basin have been calculated and are presented in Table 3-6. This data indicates that approximately 3 percent of the total salt load to Lake Mead (9,700,000 tons/year) comes from the Virgin and Muddy Rivers, the Las Vegas Wash, and other ephemeral tributaries to the lake. The Las Vegas Wash is by far the largest contributor, transporting salts from natural sources, the Las Vegas sewage discharge system, industrial disposal areas, and direct runoff from urbanized areas. The planning area is characterized by a wide variety of plant species (see Map 3-6). This diversity is the result of several factors, including soil type, elevation, temperature, precipitation, and land uses. Plants are grouped into vegetation communities, named for the visually dominant species, i.e. grasses, shrubs, or trees; a more complete discussion of these groupings is presented below.



## VEGETATION

All vegetation communities contain herbaceous species which can be classified as annual (ephemeral), biennial or perennial. Annual forbs and grasses are those species which complete their entire life cycle within one growing season. Seeds of annual species may lie dormant within the soil for years until the proper combinations of precipitation and temperature are present. When these conditions occur, a significant amount of growth can be produced in a very short time. Winter precipitation from Pacific frontal storms stimulates the widespread production of winter/spring annuals which stay green for several months, if temperatures remain cool. Summer thunderstorms generally result in scattered occurrences of annuals which tend to dry out quickly due to higher temperatures.

Biennials are those species which complete their life cycle over the course of 2 years; some produce vegetative growth during one season and seed during the second season while others produce seed at the end of each of the two growing seasons. Perennials are those plants which are long-lived, producing both vegetative growth and seed each growing season, depending on temperature and precipitation.

### Vegetation Communities

All vegetation communities in the Stateline Resource Area are included within the Sonoran Basin and Range Province or Mojave Desert shrub Biotic Communities, with a small inclusion of the Colorado and Green River Plateau Biomes. Table 3-7 lists communities and acreages in the SRA; these communities are described as follows:

Salt Desert Shrub: This vegetation community is found throughout the planning area at lower elevations in valley bottoms, around playas, and on bajadas. Soils are saline or alkaline and fine-textured (silts and/or clays). Dominant species of this community are four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), green ephedra (*Ephedra viridis*), seep weed (*Suaeda torreyana* var. *ramossissima*), and bud sage (*Artemisia spinescens*). Common forbs and grasses include halogeton (*Halogeton glomeratus*), Russian thistle (*Salsola* sp.) and Indian rice grass (*Oryzopsis hymenoides*).

Southern Desert Shrub: This community occurs throughout the planning area primarily at elevations below 4,000 feet where annual rainfall is unreliable and averages less than six inches. Temperature extremes range from over 100 degrees F in the summer to 25 degrees F in the winter.

Creosote bush (*Larrea tridentata*) is the dominant species of this community, occurring as a distinct community or as an understory species with yucca (*Yucca schidigera*), depending on elevation. White bursage (*Ambrosia dumosa*) is the usual co-dominant with creosote bush. Dry washes at lower elevations often support catclaw acacia (*Acacia greggii*). Common forbs and grasses include Indian ricegrass, Russian thistle, big galleta (*Hilaria rigida*), desert needlegrass (*Stipa speciosa*), and filaree (*Erodium cicutarium*).

Mojave Desert Shrub: This grouping consists of a mixture of shrubs characteristic of mid-elevations of the Mojave desert. These species generally occur on tuff or alluvial deposits at elevations between 4,000-5,000 feet throughout the planning area. Joshua tree (*Yucca brevifolia*) is a conspicuous overstory in this community. Common shrubs are smooth horsebrush (*Tetradymia glabrata*), spiny mendora (*Mendora spinescens*), burrobrush (*Hymenoclea salsola*), box thorn (*Lycium andersonii*), green ephedra, green rabbitbrush (*Chrysothamnus viscidiflorus*), Mormon tea (*Ephedra nevadensis*), and four-wing saltbush. Blackbrush (*Chrysothamnus ramossissima*) becomes the dominant shrub at higher elevations, often forming pure stands on drier south or southwest-facing slopes. Blackbrush intergrades with sagebrush (*Artemisia* sp.) at higher elevations. Common grasses are big galleta, Indian ricegrass, and fluffgrass. Cacti are also common in this community; conspicuous species are cottontop barrel cactus (*Echinocactus polycephalus*), prickly pear (*Opuntia echinocarpa*), and various cholla species (*Opuntia* sp.). When blackbrush is disturbed by fire, overgrazing, or other mechanisms, purple threeawn (*Aristida purpurea*) invades the site.



Table 3-7. Vegetation communities in Stateline Resource Area.

<u>Vegetation Community</u>	<u>Acres</u>
Southern desert shrub	2,148,612
Mojave shrub	1,303,961
Pinyon-juniper	137,683
Salt desert shrub	55,115
Mountain shrub	10,872
Grassland	6,916
Mesquite	5,358
Conifer	728
Riparian	<u>2,096</u>
<b>TOTAL</b>	<b>3,671,341</b>

(Source: BLM, Las Vegas District Office files, 1991; Range Survey, 1978, 1979.)

Mountain Shrub: The mountain shrub or northern desert shrub community occurs at elevations between 4,500-6,000 feet in the planning area. Common shrubs include mountain mahogany (*Cercocarpus ledifolius*), manzanita (*Arctostaphylos pungens*), desert bitterbrush (*Purshia glandulosa*), various sagebrush species, Mormon tea, and green rabbitbrush. Grass cover tends to be quite low in this group, with dominants being squirreltail (*Sitanion hystrix*) and Indian ricegrass. Several prickly pear species are common in this association.

At elevations above 5,000 feet where annual precipitation exceeds 8 inches, the mountain shrub community is characterized by a mosaic of black sage (*Artemisia nova*), and big sagebrush (*Artemisia tridentata*), depending on soil types and aspect. Big sagebrush occurs on deeper, sandy soils on mesas and in drainages and valley bottoms. Black sagebrush prefers the shallower, rocky soils of ridges and hillsides.

Pinyon-Juniper Woodland: The state tree of Nevada, singleleaf pinyon pine (*Pinus monophylla*), and Utah juniper (*Juniperus osteosperma*) are the dominant components of this community which is found in the Newberry, McCullough, Virgin, Mormon, and Spring Mountains. Pinyon-juniper woodland occurs at elevations above 6,000 feet, where average precipitation exceeds 8 inches. Understory shrubs are black sagebrush, big sagebrush, desert bitterbrush, green rabbitbrush, and cliffrose (*Cowania mexicana*). Grass species include black grama (*Bouteloua eriopoda*) and squirreltail.

Conifer: In the planning area, the conifer community has a very limited distribution, consisting of a remnant stand of white fir (*Abies concolor*), found near the summit of Virgin Peak at 8,000 feet, and relic stands of ponderosa pine (*Pinus ponderosa*) in isolated areas of the Red Rock Canyon Recreation Lands. Also present in this community is singleleaf pinyon pine; the understory is dominated by big sagebrush, and, to a lesser extent, by muttongrass (*Poa fendleriana*).

Riparian: The riparian community is uncommon in the planning area, being restricted to areas of perennial water around springs, seeps, and along stream channels. Ash Meadows and the Virgin River floodplain support riparian vegetation. Typical species are willow (*Salix* sp.), cottonwood (*Populus fremontii*), ash (*Fraxinus* sp.), rushes (*Juncus* sp.), cattails (*Typha latifolia*), and inland saltgrass (*Distichlis* sp.). Saltcedar (*Tamarix pentandra*) has invaded many of the streambank riparian areas, displacing native plants.



Grassland: This community is extremely restricted in distribution within the resource area, occurring in Hidden Valley, the Las Vegas Dunes area, and in the Amargosa Valley. The grassland community is typified by native grass species, primarily big galleta and Indian ricegrass; shrubs are generally absent.

Mesquite: The mesquite (*Prosopis sp.*) community is found near springs and seeps and in areas where the water table is high enough to assure a reliable source of water. Large stands of mesquite occur in Meadow Valley Wash, north of Glendale, and in the Crystal area in the Amargosa Valley. Small, scattered stands or *bosques* grow in ephemeral drainages and on sand dunes throughout the Stateline Resource Area.

### Special Status Plant Species

Seven plant species known to occur in the planning area have been designated as threatened or endangered; all of these species are found in the Ash Meadows area. Table 3-8 lists these special status plants.

Table 3-9 documents the species within the SRA that are officially recognized by the USFWS as candidates for listing as threatened or endangered species. Category 1 candidate species comprise those taxa for which the U.S. Fish and Wildlife Service has substantial information on hand to support the biological appropriateness of proposing to list them as endangered or threatened. Category 2 candidate species are those taxa for which available information indicates that proposing to list is possibly appropriate as endangered or threatened. Substantial data on biological vulnerability and threats are not currently known or on file to support the immediate preparation of rules by the U.S. Fish and Wildlife Service.

Species of special concern are those with restricted habitat which may receive greater future impacts, although no danger currently exists of losing either substantial plant numbers or habitat acreage. Species of special concern are shown in Table 3-10. The Nevada Division of Forestry has declared those species in Clark County, listed in Table 3-11, as critically endangered. Map 3-7 depicts the general locations for special status plant species within the planning area.

**Table 3-8. Federally listed threatened and endangered plants.**

Endangered	Ash Meadows niterwort	<i>Nitrophila mohavensis</i>
Threatened	Ash Meadows milkvetch	<i>Astragalus phoenix</i>
	Spring-loving centuary	<i>Centaurium namaphilum</i>
	Ash Meadows gumplant	<i>Grindelia fraxino-pratensis</i>
	Ash Meadows ivesia	<i>Ivesia iremica</i>
	Ash Meadows blazing star	<i>Mentzelia leucophylla</i>
	Ash Meadows sunray	<i>Enceliopsis nudicaulis</i> var. <i>corrugata</i>



Table 3-9. Candidate plant species.

<u>Category</u>	<u>Name</u>
1	<i>Angelica scabrida</i>
1	<i>Antennaria soliceps</i>
2	<i>Arctomecon californica</i>
2	<i>Arenaria kingii</i> ssp <i>rosea</i>
2	<i>Astragalus aequalis</i>
2	<i>Astragalus funereus</i>
2	<i>Astragalus mohavensis</i> var <i>hemigyrys</i>
2	<i>Astragalus musimonum</i>
1	<i>Astragalus oophorus</i> var <i>clokeyanus</i>
2	<i>Astragalus oophorus</i> var <i>lonchocalyx</i>
2	<i>Astragalus remotus</i>
2	<i>Astragalus triquetrus</i>
	(= <i>A. Geyeri</i> var <i>triquetrus</i> )
2	<i>Calochortus stiatius</i>
2	<i>Camissonia megalantha</i>
2	<i>Chrysothamnus eremobius</i>
2	<i>Cordylanthus tecopensis</i>
2	<i>Cryptantha hoffmanii</i>
2	<i>Cryptantha insolita</i>
2	<i>Cymopterus ripleyi</i> var <i>saniculoides</i>
2	<i>Draba jaegeri</i>
2	<i>Draba pauciflucta</i>
2	<i>Epilobium nevadense</i>
2	<i>Erigeron ovinus</i>
2	<i>Eriogonum bifurcatum</i>
2	<i>Eriogonum viscidulum</i>
2	<i>Forsellesia clokeyi</i>
2	<i>Forsellesia pungens</i> var <i>glabra</i>
2	<i>Galium hilendiae</i> var <i>kingstonense</i>
2	<i>Ivesia cryptocaulis</i>
2	<i>Ivesia jaegeri</i>
1	<i>Opuntia whipplei</i> var <i>multigeniculata</i>
2	<i>Penstemon bicolor</i> ssp <i>bicolor</i>
2	<i>Penstemon bicolor</i> ssp <i>roseus</i>
2	<i>Penstemon fruticiformis</i> ssp <i>amargosae</i>
2	<i>Penstemon pahutensis</i>
2	<i>Phacelia beatleyae</i>
2	<i>Salvia dorrii</i> var <i>clokeyi</i>
2	<i>Selaginella utahensis</i>
2	<i>Silene clokeyi</i>
1	<i>Sphaeromeria compacta</i>
2	<i>Splranthes infernalis</i>
1	<i>Synthyris ranunculina</i>
2	<i>Townsendia jonesii</i> var <i>tumulosa</i>



Table 3-10. Species of special concern.

<u>Name</u>	<u>Category</u>
<i>Agave utahensis</i> var <i>eborispina</i>	(3c)
<i>Astragalus remotus</i>	(3c)
<i>Corypantha vivipara</i> var <i>rosea</i>	(3c)
<i>Forsellesia pungens</i>	(3c)
<i>Penstemon thompsonae</i> var <i>jaegeri</i>	(3c)
<i>Perityle megalcephala</i> var <i>intricata</i>	(3c)
<i>Phacelia anelsonii</i>	(3c)
<i>Viola purpurea</i>	(3c)

Table 3-11. State of Nevada endangered plants.

<i>Ash Meadows blazing star</i>	<i>Mentzelia leucophylla</i>
<i>Ash Meadows gumplan</i>	<i>Grindelia fraxino-pratensis</i>
<i>Ash Meadows milkvetch</i>	<i>Astragalus phoenix</i>
<i>Ash Meadows niterwort</i>	<i>Nitrophila mohavensis</i>
<i>Beatley milkvetch</i>	<i>Astragalus beatleyae</i>
<i>California bearpoppy</i>	<i>Arctomecon californica</i>
<i>Geyer milkvetch</i>	<i>Astragalus geyeri</i> var <i>triquetris</i>
<i>Las Vegas cryptantha</i>	<i>Cryptantha insolita</i>
<i>Spring loving centary</i>	<i>Centaureum namophilum</i>
<i>Viscid buckwheat</i>	<i>Eriogonum viscidulum</i>

(Source: Nevada Division of Forestry, 1986)

## Vegetation Condition

Vegetation condition in the planning area has been evaluated by several methods which have changed over the years. Each of the methods has used different variables by which vegetation condition was determined. The BLM has traditionally selected forage species as the indicators of condition and trend, using relative values such as "good" or "poor" range condition. Condition data is generally gathered only in areas where livestock grazing is permitted. Forage condition denotes the relative abundance of preferred forage species found in the vegetation type as compared to other vegetation types found throughout the public lands. For example, grasslands would always be evaluated as in better "condition" than shrublands.

This practice has generally been replaced by ecological condition or status, which is defined as the present state of the vegetation and soil protection of an ecological site in relation to the potential natural community. Ecological condition compares the present status to a standard for a specific "range site", rather than other vegetation types. Ecological condition is expressed in terms of four successional stages progressing from early seral stage to a potential natural community (USDI, BLM 1984). A detailed soil survey (Order 3) is a prerequisite for such an analysis; this type of survey has only been completed in the Las Vegas Valley, the Virgin River Valley, and the Eldorado Valley. An Order 3 soil survey by the Soils Conservation Service has been contracted by BLM for all of Clark County, with a scheduled completion date of 1996.



A third method of assessing ecologic condition is based on professional judgement in interpreting the ecological site index. Individuals trained in range management, wildlife management, agronomy, or botany visually rate an area, using their knowledge of the plant species, soil types, climatic factors and site index descriptions.

The BLM is required to report the condition of its rangelands on an annual basis. The SRA provided data on both range condition and ecological status for the 1989 report; the acres reported do not reflect the actual acreage of the planning area (see Tables 3-12 and 3-13). Acreage not reported are Federal lands within the boundaries of the City of Las Vegas which are scheduled for disposal under Congressional mandate. In addition, BLM provided data on ecological status (based on professional judgement) to the General Accounting Office in response to a request in 1990 (see Table 3-14).

**Table 3-12. Range forage condition.**

<u>Federal Acres</u>	<u>Forage Condition</u>				<u>Not Classified</u>
	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	
3,610,769	0	103,696	414,752	3,065,567	26,754
(Source: USDI, BLM 1989)					

**Table 3-13. Ecological status.**

<u>Federal Acres</u>	<u>Potential Natural Community</u>	<u>Ecological Status</u>			<u>Not Classified</u>
		<u>Late Seral</u>	<u>Mid Seral</u>	<u>Early Seral</u>	
3,610,769	2,419	39,885	4,749	0	3,563,716
(Source: USDI, BLM 1989)					



**Table 3-14. Professional judgement of ecological status.**

<u>Federal Acres</u>	<u>Potential Natural Community</u>	<u>Ecological Status*</u>			
		<u>Late Seral</u>	<u>Mid Seral</u>	<u>Early Seral</u>	<u>Not Classified</u>
3,499,414**	524,897	2,099,584	839,835	34,898	0

\* Derived from inventory data and professional judgement based on data from similar types  
 \*\* Acreage reflects lands transferred to the U.S. Forest Service

(Source: USDI, BLM 1990).

## RIPARIAN RESOURCES

Riparian zones form a transition between permanently saturated wetlands and the uplands. Typical riparian areas are found adjacent to perennial or intermittently flowing rivers and streams, springs, and along the shores of lakes and reservoirs with stable water levels. Such areas vary from one location to another, depending on water availability and quality, elevation, climate, soils, and topography. Despite this variability, all riparian zones share the following characteristics, being: 1) small in comparison with the overall area; 2) creating a well-defined zone within a much drier ecosystem; and 3) supporting a greater diversity of plant and animal species. A riparian zone, in good condition, can benefit surrounding areas by stabilizing soils, reducing sediment loads, and contributing a significant and critical component to ecological diversity and productivity.

Riparian areas in SRA are primarily associated with perennial streams and springs. Only four perennial streams (greater than 1/2 mile in length) are found within the planning area. These include the Muddy and Virgin Rivers, Meadow Valley Wash, and the Las Vegas Wash. Of these four streams, only the Virgin River has a significant riparian zone located on public lands. This area, totaling 194 acres, covers 9 miles of the river's length. Conditions range from poor to fair, depending on the location along the river (USDI, BLM 1988). Vegetation within the riparian area consists of tamarisk (*Tamarix sp.*), saltgrass (*Distichlis sp.*), and greasewood (*Sarcobatus vermiculatus*). Tamarisk, commonly known as salt cedar, is a problem within the Virgin River floodplain due to its high water consumption, salt concentrating abilities, and its characteristic rapid spread.

One hundred and twenty-seven springs in the Stateline Resource Area were evaluated as capable of supporting viable riparian areas. In 1989, an inventory was undertaken to ascertain the current extent and condition of riparian areas associated with these springs; to date, 30 springs have been studied. Data from this inventory is presented in Table 3-15. The condition of the inventoried springs ranges from poor to good, with 70 percent (21 springs) in poor condition. The current vegetative component present at these springs is presented in Table 3-16.



Table 3-15. Riparian inventory.

<u>Spring Name</u>	<u>Location</u>	<u>Acreage</u>	<u>Riparian Condition</u>	<u>Improvement Potential</u>
Jackass	T.14S., R.65E. sec. 27 NW $\frac{1}{4}$ SW $\frac{1}{4}$	2.0	Good	High
Seep	T.15S., R.70E. sec. 02 SE $\frac{1}{4}$ SW $\frac{1}{4}$	0.1	Poor	High
Rabbit	T.15S., R.70E. sec. 09 NW $\frac{1}{4}$	0.1	Poor	Low
No. Key West	T.15S., R.70E. sec. 16 SE $\frac{1}{4}$ SE $\frac{1}{4}$	0.2	Poor	Low
So. Key West	T.15S., R.70E. sec. 21 NE $\frac{1}{4}$ SW $\frac{1}{4}$	0.03	Poor	Low
Hen	T.15S., R.71E. sec. 06 NE $\frac{1}{4}$	0.1	Poor	Low
Kwichup	T.17S., R.53E. sec. 17 SE $\frac{1}{4}$	0.1	Poor	Moderate
Red Bluff	T.17S., R.69E. sec. 14 NW $\frac{1}{4}$ NW $\frac{1}{4}$	2.3	Fair	High
Red Rock	T.17S., R.70E. sec. 6,7,18	5.0	Fair	High
Mud	T.17S., R.70E. sec. 25 SE $\frac{1}{4}$ SW $\frac{1}{4}$	0.01	Poor	None
Grassy	T.18S., R.58E. sec. 32 SE $\frac{1}{4}$ NW $\frac{1}{4}$	0.4	Poor	High
Schumaker	T.18S., R.58E. sec. 33 SW $\frac{1}{4}$ NW $\frac{1}{4}$	0.1	Poor	Low
Horse	T.18S., R.70E. sec. 24 SW $\frac{1}{4}$ SE $\frac{1}{4}$	0.1	Poor	Low
Grapevine	T.19S., R.58E. sec. 16 NW $\frac{1}{4}$ SW $\frac{1}{4}$	0.25	Poor	Moderate
Bitter	T.19S., R.67E. sec. 17 NE $\frac{1}{4}$ NE $\frac{1}{4}$	1.0	Poor	Moderate
Maynard	T.19S., R.69E. sec. 20 NW $\frac{1}{4}$ SW $\frac{1}{4}$	0.2	Poor	High
Grapevine	T.19S., R.70E. sec. 34 SW $\frac{1}{4}$ NW $\frac{1}{4}$	0.02	Fair	Low
Klup	T.20S., R.56E. sec. 31 SE $\frac{1}{4}$ SE $\frac{1}{4}$	1.4	Good	Moderate
Taylor	T.20S., R.69E. sec. 15 NW $\frac{1}{4}$	0.1	Poor	Low
West Willow	T.20S., R.70E. sec. 08 SW $\frac{1}{4}$ SE $\frac{1}{4}$	0.0	Poor	None
Mud No.2	T.22S., R.58E. sec. 23 NE $\frac{1}{4}$ NW $\frac{1}{4}$	0.0	Poor	None
Wilson Tank	T.23S., R.58E. sec. 24 SW $\frac{1}{4}$ NE $\frac{1}{4}$	0.05	Fair	None
Bird	T.24S., R.59E. sec. 04 NE $\frac{1}{4}$ SW $\frac{1}{4}$	0.15	Fair	Low
McCullough	T.26S., R.61E. sec. 26 SE $\frac{1}{4}$ SW $\frac{1}{4}$	0.1	Poor	Moderate
Willow	T.26S., R.61E. sec. 31 NE $\frac{1}{4}$ NE $\frac{1}{4}$	0.1	Poor	Low
Ora Hanna	T.27S., R.62E. sec. 05 NE $\frac{1}{4}$ SE $\frac{1}{4}$	0.2	Poor	Moderate
Highland	T.27S., R.62E. sec. 16 SW $\frac{1}{4}$ NW $\frac{1}{4}$	0.5	Poor	High
Cow	T.27S., R.62E. sec. 26 NE $\frac{1}{4}$ SW $\frac{1}{4}$	0.1	Poor	Moderate
Cottonwood	T.31S., R.65E. sec. 17 NW $\frac{1}{4}$	0.2	Fair	High
Hiko	T.32S., R.65E. sec. 12 SE $\frac{1}{4}$ SE $\frac{1}{4}$	0.4	Fair	High

## VISUAL RESOURCES

The planning area contains a variety of scenic values which can be separated into seven distinct areas: the Gold Butte area, Mormon Mesa, Muddy Mountains, Red Rock Canyon, Spring Mountains, Amargosa Valley, and south of Las Vegas Valley. The Visual Resource Management (VRM) program manages these values with the objectives retaining the quality of the visual environment and reducing the visual impact of development activities. Scenic areas that warrant protection through special management attention are also identified.

Red Rock Canyon National Conservation Area (NCA) is dominated by the geologically unique Keystone Thrust Fault and a spectacular 3,000 foot multi-colored sandstone escarpment. The escarpment and the diverse array of desert and mountain vegetation offer a unique color and form contrast that attracts visitors from around the world. Several man-made developments are located in the NCA; however they are visually screened from the majority of the NCA and do not detract from the area's scenic quality.



Table 3-16. Dominant vegetation at inventoried spring sources.

Spring Name	Shrub Species		Herb Species		Tree Species	
	Dominant	Sub-Dominant	Dominant	Sub-Dominant	Dominant	Sub-Dominant
Jackass	VIAR2	SALIX	PHCO	MUUT	POFR2	PRJU
Seep	TAMAR2	---	PPGG	BRRU2	CHLI2	---
Rabbit	---	---	---	---	---	---
N. Key West	PRUN	CORA	BROMU	---	---	---
S. Key West	---	---	---	---	---	---
Hen	---	---	---	---	---	---
Kwichup	ATCA2	---	PPGG	---	PROSO	---
Red Bluff	TAMAR2	---	CAREX	DIST1	PRJU	---
Red Rock	SALIX	CHRY9	DIST1	CAREX	POFR2	---
Mud	---	---	TYLA	---	---	---
Grassy	ATCA2	CHRY9	AGROS2	CAREX	---	---
Schumaker	ATCA2	---	CAREX	---	PROSO	---
Horse	---	---	---	---	---	---
Grapevine	CHRY9	ATCA2	MARRU	BRRU2	---	---
Bitter	TAMAR2	---	TYLA	PPGG	PRJU	---
Maynard	ACGR	---	PPGG	---	---	---
Grapevine	CHRY9	---	MOSS	PPGG	---	---
Klup	CHRY9	ATCA2	MUUT	CAREX	PRJU	---
Taylor	---	---	BROMU	---	---	---
West Willow	---	---	---	---	---	---
Mud No. 2	---	---	---	---	---	---
Wilson Tank	ATCA2	---	BRRU2	PPFF	---	---
Bird	ATCA2	PRER	BRRU2	BRTE	---	---
McCullough	PRFA	RHTR	PENST	BROMU	FONE	---
Willow	PRUN	ACGR	BROMU	---	---	---
Ora Hanna	LATR2	CORA	---	---	ACGR	---
Highland	CHRY9	---	PPGG	MUUT	CHLI2	---
Cow	---	---	---	---	---	---
Cottonwood	RUTR	CHRY9	POLYP2	CAREX	SALIX	---
Hiko	TAMAR2	SALIX	BRRU2	TYLA	POFR2	PRJU

Key:

Symbol

Scientific Plant Name

Common Plant Name

ACGR

*Acacia greggii*

catclaw

AGROS2

*Agrostis*

bentgrass

ATCA2

*Atriplex canescens*

fourwing saltbush

BROMU

*Bromus*

brome

BRRU2

*Bromus rubens*

red brome

BRTE

*Bromus tectorum*

cheatgrass

CAREX

*Carex*

sedge

CHLI2

*Chilopsis linearis*

desert willow



Table 3-16. (concluded).

Key: Symbol	Scientific Plant Name	Common Plant Name
CHRY9	<i>Chrysothamnus</i>	rabbitbrush
CORA	<i>Coleogyne ramosissima</i>	blackbrush
DIST1	<i>Distichlis</i>	saltgrass
FONE	<i>Forestiera neomexicana</i>	New Mexico forestiera
LATR2	<i>Larrea tridentata</i>	creosote bush
MARRU	<i>Marrubium</i>	horehound
MOSS		moss
MUUT	<i>Muhlenbergia utilis</i>	aparejo grass
PENST	<i>Penstemon</i>	penstemon
PHCO		common reed
POFR2	<i>Populus fremontii</i>	Fremont cottonwood
POLYP2	<i>Polypogon</i>	polypogon
PPFF		other perennial forbs
PPGG		other perennial grasses
PRER	<i>Prunus eriogyna</i>	desert apricot
PRFA	<i>Prunus fasciculata</i>	desert peachbrush
PRJU	<i>Prosopis juliflora</i>	mesquite
PROSO	<i>Prosopis</i>	mesquite
PRUN	<i>Prunus sp.</i>	
RHTR	<i>Rhus trilobata</i>	skunkbush sumac
RUTR	<i>Rubus sp.</i>	
SALIX	<i>Salix</i>	willow
TAMAR2	<i>Tamarix</i>	tamarisk
TYLA	<i>Typha latifolia</i>	common cattail
VIAR2	<i>Vitis arizonica</i>	canyon grape

Approximately 83,100 acres of highly scenic lands occur within the Red Rock Canyon National Conservation Area and along the foothills of the Spring Mountains; this area is managed primarily for its visual resources. The remainder of the resource area, comprised primarily of desert, mountains, playas, and bajadas, are managed so that resource uses and surface disturbance do not dominate the landscape.

The Gold Butte area, located south of Mesquite, Nevada and north and east of Lake Mead, is dominated by Virgin Mountain and characterized by exceptional panoramic desert views. The northern portion of the area is covered by sparse creosote bushes, grasses, and shrubs. Dense stands of Joshua trees, pinyon and juniper, as well as desert vegetation types are found at the southern extreme of Gold Butte. Water sources and riparian areas are few in number. The proximity of tree-clad Virgin Mountain to sandstone formations and desert vegetation creates a stark visual contrast.

The Mormon Mesa area is situated north of Interstate 15 and east of the Desert Wildlife Range. The predominate landscapes in the area are Mormon Mesa, Mormon Mountain, and the Arrow Range. The primary water sources in the area are the Muddy River and Meadow Valley Wash; both contain riparian vegetation and arable lands. Vegetation consists of creosote bush communities in the lower elevations and pinyon/juniper woodlands on Mormon Mountain. Scenic values are found in the transition between the Mesa's floor and Mormon Mountain and in the geologically unique Arrow Canyon.



The Muddy Mountains are located south of Interstate 15, north of Lake Mead, and east of Las Vegas. The Muddy Mountains offer a backdrop of color, and from the top of Muddy Peak, outstanding views of Lake Mead and nearby basins. Specific areas of high scenic quality in the area include Buffington Pockets, Anniversary Narrows, and Hidden Valley. A few springs with riparian vegetation intersperse the creosote bush communities of the lower elevations. The Valley of Fire State Park and Sunrise Mountain are other areas of scenic value in the region.

The Spring Mountains area includes all of the landforms adjacent to Mount Charleston and the Toiyabe National Forest. The area is dissected with several moderate sized canyons, several major highways, and desert to mountain transition zone vegetation. The most dramatic feature is the back drop of Mount Charleston which dominates the entire landscape.

The Amargosa Valley area is found north and west of Las Vegas between the municipalities of Pahrump and Beatty. Most of the landscape is unremarkable, characterized by flat bajada type desert country with creosote bush communities and some minor hills and mountains. The eastern boundary of the area (located along the National Test Site) does contain colorful and rugged mountain ranges that breakup the monotony of the valley floor. Several cinder cones and Big Dune offer a unique scenic contrast to the Amargosa Valley.

South of the Las Vegas Valley, geologically distinctive mountain ranges, as well as three dry lake playas, characterize the region. The ranges include the North and South McCullough Ranges, Iteba and El Dorado Mountains, while the playas are El Dorado, Jean, and Roach Dry Lakes. The lower areas are characterized by creosote bush communities whereas the higher mountains have pinyon juniper woodlands and Joshua tree forests.

## **FISH AND WILDLIFE RESOURCES**

The Stateline Resource Area encompasses an ecologically diverse region, with a variety of landforms, soils types, moisture regimes, and vegetation communities. This variability creates habitat for numerous wildlife species. A complete list of wildlife species is found in Appendix F. Important species include the following:

### **Desert Bighorn Sheep** (*Ovis canadensis nelsoni*)

Archeological evidence indicates that desert bighorn sheep have occurred in Nevada for the past 11,000 years (McQuivey 1978); the state currently supports one of the largest modern populations in the United States. In the planning area, bighorn sheep are found in 17 mountain ranges, with two additional ranges capable of supporting sheep herds (see Map 3-8). Table 3-17 lists historic and current bighorn sheep habitat and populations.

Over the past 12 years, bighorn numbers have stabilized or increased slightly, as a result of reintroductions to former habitat, water developments, and favorable land use decisions. Although it appears that bighorn sheep populations have declined in some areas (see Table 3-17), the apparent decline can be attributed to the recent drought and the data does not support a long-term downward population trend. In 1989, the McCullough and Highland ranges (Area 84) were reopened to hunting for the first time in several years. Bighorn sheep compete with domestic sheep, livestock, wild horses and burros for forage and water. Urban growth is also impacting sheep habitat by reducing acreage and disrupting migration routes.



**Table 3-17. Current/historic bighorn sheep habitat and populations based upon data from 1976-1990.**

<u>Mountain Range</u>	<u>Population</u> <u>1976</u>	<u>Estimates</u> <u>1990</u>	<u>Total</u> <u>acres</u>	<u>Watered</u> <u>acres</u>
Arrow Canyon Range	103	117	8,500	7,100
Las Vegas Range****	277	147	7,800	0
South Spring Range/ Bird Spring Range	70	50	78,200	15,400
Red Rock/La Madre	162	160	116,100	49,600
McCullough Mountains	158	82	118,500	32,800
Highland Range	56	25	25,100	15,200
Eldorado Range	410	408	50,100	23,500
Muddy Mountains/Gale	122	325	84,600	22,300
Newberry Mountains	55	86	29,200	10,900
River Mountains	210	136	12,700	200
Virgin Mountains	0	72	39,100	10,400
New York/Castle Peak	25*	25*	14,000	9,500
Gold Buttes	0	76	63,400	11,300
Last Chance Range**	0	49	38,000	7,000
Specter Range**	0	19	25,200	13,000
Bare Mountains +	0	0	8,200	7,200
Meadow Valley Mtns****	155	121	12,400	0
Mormon Mountains****	385	320	3,200	0
Dry Lake Range***	0	0	11,500	0
Lucy Grey Mountains***	0	0	17,300	0
North Spring Range***	0	0	39,400	10,600
North Muddy Mountains***	0	0	27,300	0
<b>Totals</b>	<b>3,245</b>	<b>2,817</b>	<b>869,800</b>	

**Key:**

Watered habitat is within 2 miles of water. Acres have been rounded to the nearest 100 acres.

\*Nevada portion of the population only. Most of the New York Mountains are located in California. The animals move back and forth between California and Nevada.

\*\*Recent transplant; estimate is based upon actual numbers released, less known mortality.

\*\*\*unoccupied historic habitat.

\*\*\*\*Portions of the Mormon, Meadow Valley and Las Vegas (Elbow) Ranges are located in the planning unit. The majority of the habitat and all existing waters are located outside the Resource Area. Population estimates are for the entire mountain ranges.

+ Historic habitat, reintroductions planned in near future.

(Source: NDOW survey data 1976-1990 and unpublished BLM data).



## **Mule Deer**

(*Odocoileus hemionus*)

Historic evidence suggests that mule deer numbers were relatively low in Nevada prior to the turn of the century. In the SRA, mule deer numbers have remained low and their distribution limited by the amount of suitable habitat. Much of the planning area does not support the vegetation types preferred by mule deer. Water, too, is a limiting factor, with competition occurring between livestock, wild horses and burros, and mule deer at springs sources. Low density deer populations are restricted to several mountain ranges, including the Spring, McCullough, Newberry, and Virgin Mountains (see Map 3-9). Some deer use occurs in the Gold Butte area, located south of the Virgin Mountains. Table 3-18 shows the deer population estimates for the planning area in 1988.

## **Gambel's Quail**

(*Callipepla gambelli*)

In Nevada, good quail habitat is generally located on alluvial fans dissected by numerous washes, at elevations between 2,000-4,500 feet. Quail habitat totals approximately 3,400,000 acres in Clark County; additional habitat is found in Nye County, at the north end of the Spring Mountains, and at Ash Meadows (see Map 3-10). Population density is difficult to estimate due to large annual fluctuations in quail numbers. Habitat conditions vary from excellent to poor, depending upon water availability, precipitation, and forage conditions. All springs, seeps, rivers, lakes and water catchments are important use areas for these birds.

## **Special Status Animal Species**

The Stateline Resource Area is home for many special status species, which include threatened and endangered, candidate, state listed, and sensitive species (see Maps 3-11 and 3-12). It is BLM policy to manage the habitats of all special status species to ensure the recovery of listed species and to ensure that any Federal actions authorized, funded, or carried out are not likely to jeopardize the continued existence of any such species (BLM Manual 6840). Species lists and other information are included in the following appendices:

Appendix F lists the status of species found or potentially found on BLM lands and species that occur on private, state or other Federal lands within the planning area.

Appendix G includes candidate species known to occur on BLM or adjacent lands.

Federally-listed threatened and endangered species are discussed in greater detail in the following section. BLM conserves Federally listed species and their habitats and uses existing authorities to further the purpose of the *Endangered Species Act* (ESA). All actions authorized, funded, or carried out by the BLM must comply with the requirements of the ESA. Species proposed for Federal listing are managed with the same level of protection as listed species.

## **Endangered Fish**

Three endangered fish are found in the Colorado River drainage system, which crosses the eastern edge of the Stateline Resource Area. Each of these species is threatened by habitat destruction (i.e. further water removal, sedimentation, pollution, and channelization), disease, and predation, particularly from exotic species. These threats are magnified by the low population numbers and the limited range of each species. The *Virgin River Habitat Management Plan*, completed in 1984 and the *Woundfin Recovery Plan*, currently undergoing an update, guide BLM management strategies for these species.



**Table 3-18. 1988 Nevada deer season population estimates.**

<u>Area/Unit</u>	<u>Population Estimate</u>	<u>Big Game Area</u>	<u>Clark County MFP Reasonable No.</u>	<u>Acres (1,000)</u>
260	1,235			
Spring Mountains		DY-1	1,500	175.0
McCullough		DY-4	50	38.5
Newberry Mountains		DY-2	50	18.6
270	M*			
Virgin		DY-5	300	32.4
Mormon Mountains		Caliente RA		
Gold Butte		DY-3	50	23.0
<b>Totals</b>			<u>2,050</u>	<u>287.5</u>
Key:				
*Habitat is marginal and no aerial surveys are conducted.				
(Source: NDOW 1989 and USDI, BLM 1984a).				

#### **Woundfin**

*(Plagopterus argentissimus)*

The woundfin was originally native to the Salt, Gila, Colorado, Moapa, and Virgin Rivers. Current distribution is limited to the Virgin River drainage in Arizona, Nevada, and Utah, from Lake Mead to LaVerkin Springs and to the lower portion of LaVerkin Creek near Hurricane, Utah. The Stateline Resource Area manages approximately 194 acres of riparian habitat along the Virgin River in Nevada; no woundfin were found within that area during 1989 and 1991 fish surveys of the river.

#### **Virgin River Roundtail Chub**

*(Gila robusta seminuda)*

The Virgin River chub was listed as an endangered species in August, 1989. This species is endemic to 134 miles of the Virgin River in southwestern Utah, northwestern Arizona, and southern Nevada. An estimated 56 percent of the chub's historic habitat has been eliminated, restricting its current distribution to 50 miles of river between Mesquite, Nevada and LaVerkin Creek, Utah. No chub were found in Nevada during 1989 and 1991 surveys of the Virgin River.

#### **Moapa Dace**

*(Moapa coriacea)*

The Moapa dace is a federally-listed endangered species, whose habitat is restricted to three thermal springs and the headwaters of the Muddy River. While the Moapa dace probably do not occur on lands managed by BLM, their survival could be affected by activities which occur on BLM lands in the Moapa Valley. Most of the springs which originally supported this species have been extensively modified for private developments. The introduction of exotic fish and their associated parasites and diseases has also negatively impacted the Moapa dace population.



## Endangered Birds

### Peregrine Falcon (*Falco peregrinus*)

The peregrine falcon is a federally-listed endangered species which has been sighted along the Colorado River drainage from the Overton Wildlife Management Area (WMA) south to Lake Mead, in Red Rock Canyon, in the Pahrump Valley, the Desert National Wildlife Range, and the Christmas Tree Pass area. Preferred peregrine habitat include regions of sheer cliffs, located in close proximity to riparian zones or other water sources where prey are readily available. Many areas in the Stateline Resource Area, especially the Spring, Virgin, and Newberry Mountains, contain potentially suitable habitat for this species.

In 1989, the Nevada Department of Wildlife established an Urban Peregrine Hack Program, through which four nestling falcons were raised and released from a hack box on top of the Las Vegas Hilton Hotel. These and subsequent hack-reared birds may select nesting sites on BLM-administered lands which surround the Las Vegas Valley, thus establishing a breeding peregrine falcon population within the Stateline Resource Area. A similar hacking program is proposed for a hotel site in Laughlin.

## Threatened Reptiles

### Desert Tortoise (*Xerobates agassizii*)

The U.S. Fish and Wildlife Service has listed the desert tortoise population in the Mohave desert as threatened under the provisions of the *Endangered Species Act* of 1973, as amended. This act requires that the BLM not authorize, fund or conduct any activity that threatens the continued existence of a listed species. The Nevada Department of Wildlife has estimated that between 26,065 and 161,375 desert tortoises occur in Nevada; the wide range of the population estimate is reflective of data accuracy limitations.

Approximately 3 million acres of tortoise habitat in Clark and Nye Counties are administered by the BLM (see Map 3-12); Table 3-19 lists tortoise habitat in the planning area. The BLM has divided tortoise habitat into three major categorizations in order to assist the agency in obtaining overall management goals established by BLM directives.

Tortoises are yearlong residents of the planning area generally inhabiting the creosote-bursage or creosote-yucca communities at elevations below 4,500 feet. Their forage base consists of native annuals, perennial grasses, cacti, a few half shrubs, and some exotic species. Tortoises are a biologically sensitive species, being long-lived with a slow maturation rate and low reproduction rates. The species is unable to adapt to rapid environmental changes. Since tortoises spend the majority of their lives underground, they are particularly susceptible to surface-disturbing activities.

Data from mitochondrial DNA studies indicate that the desert tortoise has evolved into the following genetically distinctive groups (Lamb et al 1988): a Mojave type, a Sonoran type, and a Mexican type. The Mojave type is found within the Stateline Resource Area, being located in areas to the north and west of the Colorado River in the Mojave Desert. Additional genetic and morphological differences have been identified within the Mojave type, indicating that three distinct genetic subunits have formed within this population. These subunits are: 1) Piute Valley which includes Piute Valley in Nevada and all of California, except Ivanpah Valley; 2) Ivanpah, comprising Ivanpah Valley in California and Nevada and all of Nevada except extreme eastern Nevada (north of Lake Mead) and Piute Valley; and (3) Mormon Mesa/Beaver Dam Slope which includes Mormon Mesa, Gold Butte, and the Tule Desert in Nevada. Each subunit has phenological differences, occurs in slightly different habitat types, and has distinctive behavioral patterns. Different management strategies may be required for each of these genetic subunits.



**Table 3-19. Tortoise habitat areas in the Stateline Resource Area.**

<u>Name/Location</u>	<u>Category</u>	<u>Acreage</u>
Gold Butte	I	77,000
	IIIb	152,500
Arrow Canyon/ Coyote Springs	I	59,900
	IIIb	22,800
Piute Valley/ Newberry Mts	I	135,000
	IIIb	58,600
Mormon Mesa	I	66,100
	II	20,000
Pahrump Valley	II	114,500
	IIIa	27,500
	IIIb	138,800
Virgin Slopes	II	67,900
	IIIb	15,400
Lower Mormon Mesa	II	47,800
California Wash	II	75,300
Indian Springs	II	128,000
	IIIb	40,900
Desert Range*	II & IIIa	0
Las Vegas/ Goodsprings/ Ivanpah	II	146,200
	IIIb	56,700
	IIIa	104,600
Eldorado Valley/ Eldorado Mts	II	51,800
	IIIa	189,100
N. McCullough Mts	IIIb	159,700
Laughlin	IIIa	45,300
	IIIb	17,900
Apex/Dry Lake Valley	IIIa	87,300
Meadow Valley/ Moapa/Overton	IIIa	51,000
	IIIb	127,200



**Table 3-19. (concluded).**

<u>Name/Location</u>	<u>Category</u>	<u>Acreage</u>
Tule Desert	II	6,900
Muddy Mountains	IIIb	176,000
Amargosa Desert (Nye County)	IIIb	512,300
Mesquite Valley	IIIb	52,800
Virgin Valley	IIIb	<u>33,900</u>
<b>Total acreage</b>		<b>3,066,700</b>

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**Note:** Totals for each category by acreage are as follows:  
 Category I = 338,000 acres  
 Category II = 658,400 acres  
 Category IIIa = 504,800 acres  
 Category IIIb = 1,565,500 acres.

**Key:** \*Desert National Wildlife Range, managed by the U.S. Fish and Wildlife Service.

(Source: USDI, BLM, Las Vegas District Office files 1989d and unpublished data).

The Piute Valley tortoise population has been increasingly impacted by human activities in the region, including the development along the Colorado River. Based on study plot data, population estimates for adult tortoises dropped from 74-89 tortoises per square mile in 1979 to approximately 38 tortoises per square mile in 1989. The estimated crude death rate in 1983 was 26 percent, compared to a "normal" adult death rate of approximately 2-4 percent for healthy tortoise populations. Road kills, off-highway vehicle use, mining activities, past livestock grazing practices, and the loss of habitat have affected this population. The Upper Respiratory Disease Syndrome, a highly contagious disease thought to have been spread to wild desert tortoises by domesticated tortoises, may also be infecting members of the Piute Valley population.

The Ivanpah and Mormon Mesa/Beaver Dam Slope desert tortoise subunits are also experiencing downward trends as a result of urban development, mining, off-highway vehicle use, long-term livestock grazing and other human uses. Tortoise populations within or adjacent to the rapidly expanding Las Vegas metropolitan area have experienced loss or fragmentation of habitat during the past decade. Tortoise Upper Respiratory Disease Syndrome has been documented in this population. Evidence of probable long-term nutritional problems have also been collected from individuals within these subunits. The BLM's management strategies for the desert tortoise and its habitat are identified in the *Desert Tortoise Habitat Management on Public Lands: A Rangewide Plan* (USDI, BLM 1988), developed to improve the status of the tortoise on the public lands and to maintain viable populations in perpetuity. Emphasis focused on increasing public awareness of tortoise populations and habitats, and on the categorization of tortoise habitat. The following criteria were selected for that categorization: 1) the importance of the habitat to maintaining viable populations; 2) the resolvability of conflicts;



3) tortoise density; 4) the population status (stable, increasing, decreasing). Differing levels of management, consistent with the category goals, will be applied to each habitat area. The goals and criteria for each category of desert tortoise habitat are displayed in Table 3-20 and shown on Map 3-13.

Other management objectives and goals of the *Rangewide Plan* emphasize research, inventory, and monitoring programs to enlarge the scientific data base relating to the desert tortoise. Consistency within BLM programs to achieve the objectives of tortoise habitat management and coordination with other agencies has also been given a high priority under this plan. Once a recovery plan is developed for the desert tortoise, the BLM will assist in implementing that plan.

### **Candidate Species**

BLM policy requires the management of habitats of candidate species in such a manner that future Federal listing will not be required. The planning unit supports numerous candidate species (see Appendix G), including four invertebrate species endemic to Big Dune, numerous invertebrate species in the Ash Meadows ecosystem, one butterfly which occurs in Moapa Valley, several mammals and several birds.

## **FORESTRY RESOURCES**

### **Woodland Products**

As a result of the *Forest Enhancement Act* of 1989, the number of acres of harvestable woodlands within the Stateline Resource Area has been greatly reduced. All of the pinyon-juniper woodlands in the Spring Mountains are now included in the Charleston District of the Toiyabe National Forest. The Virgin Mountains support pinyon-juniper woodland, but a lack of roads make the areas inaccessible for harvesting. Pinyon-juniper stands in the planning area are decadent, even-age stands, with little regeneration evident. Very little understory is present, due to shading and competition for nutrients and available moisture. The Virgin Mountains contain a small, relict stand of white fir; no harvest of this species is permitted within the resource area.

Mesquite wood is harvested in an area located approximately 70 miles west of Las Vegas, in the eastern Amargosa Desert. This area partially surrounds a large playa and has little potential for additional production or improvement. The mesquite "stands" are thin and uneven-aged, with little or no regeneration.

### **Desert Vegetation**

Although the Stateline Resource Area has no formal program for the harvesting of desert vegetation, many species are made available to the public when destruction of these plants is imminent as a result of construction or development, i.e. powerline installations, mining activities, etc. Salvage permits are issued to individuals, nursery owners, and landscapers for the collection of Joshua trees, barrel cactus, beavertail cactus, prickly pear, and other small cacti. Free-use permits authorizing the collection of desert vegetation have also been issued for educational or scientific research purposes.



**Table 3-20. Goals and criteria for three categories of desert tortoise habitat.**

<u>Items</u>	<u>Category I Habitat Areas</u>	<u>Category II Habitat Areas</u>	<u>Category III Habitat Areas</u>
Category Goals	Maintain stable, viable population and protect tortoise habitat values; increase populations, where possible.	Maintain stable, viable population and halt further declines in tortoise habitat values.	Limit tortoise habitat and population declines to the extent possible by mitigating impacts.
Criterion 1	Habitat Area essential to maintenance of large, viable populations.	Habitat Area may be essential to maintenance of viable populations.	Habitat Area essential to maintenance of viable populations.
Criterion 2	Conflicts resolvable.	Most conflicts resolvable.	Most conflicts not resolvable.
Criterion 3	Medium to high density or low density contiguous with medium or high density.	Medium to high density or low density contiguous with medium or high density.	Low to medium density not contiguous with medium or high density.
Criterion 4	Increasing, stable or decreasing population.	Stable or decreasing population.	Stable or decreasing population.
Criteria are ranked by importance to the categorization process, with Criterion I being the most important.			
(Source: USDI, BLM 1988d)			

## LIVESTOCK GRAZING

The Stateline Resource Area is divided into 55 grazing allotments comprising 3,332,943 acres of public lands (see Map 2-2). Of that total, only 23 allotments are actively grazed. Grazing allotments were originally delineated in 1934; allotment boundaries, grazing preference (number of animal unit months (AUMs), season of use, and base property (private land or water rights) were established. Active grazing use was authorized through Term Desert Permits, generally issued for a period of 10 years. In 1969, all grazing allotments in Clark County were designated as ephemeral in response to the Ephemeral Range Rule of 1968. This rule provides both a description of rangelands characterized as ephemeral or annual in nature and special rules for administering those ephemeral rangelands. The complete text of the Ephemeral Range Rule is contained in Appendix H. The special rules in the Ephemeral Range Rule take precedence over certain requirements in the



grazing regulations in 43 CFR 4000. On the ephemeral allotments, grazing preference was totally eliminated and season of use became contingent on the availability of ephemeral forage.

As a result of the recent development of Clark County's Conservation Plan for the Desert Tortoise (1991), three of the active grazing allotments have been purchased by the Nature Conservancy. These allotments will be held in voluntary non-use until such time as a study on the effects of livestock grazing on the desert tortoise has been completed. Additional allotments may be purchased by the Nature Conservancy over the next three years.

Allotments range in size from 90 acres to 312,000 acres. Ten allotments contain lands within the Lake Mead Recreation Area; grazing is administered by the BLM on the public lands and the Lake Mead National Recreation Area, under a cooperative agreement with the National Park Service (NPS). The *Clark County MFP* and *Esmeralda-Southern Nye RMP* designated the type(s) of livestock authorized to graze on each allotment within the planning areas. Table 3-21 provides more detailed information on the status of the allotments.

Grazing allotments have been categorized according to their potential to respond to management. The three categories of management priority for allotments include: 1) "I" for improve, allotments that have the highest need and priority for intensive management; 2) "M" for maintain, allotments where present conditions and management are satisfactory; 3) "C" for custodial, allotments which, for a variety of reasons, have a low management priority.

Most livestock operators in the planning area have breeding herds rather than stocker-feeder operations. Numbers of livestock range from as few as 12 cows to as many as 625. All permittees are dependent on federal range for grazing, since the majority of the allotments are water base. The exception is the Mount Stirling Allotment which is land base.

The season of grazing use (authorized grazing period) is normally designated through land use planning and can range from a few days to a full year. On ephemeral range, however, the season of use is dependent on the production of ephemeral forage, which can change from year to year. A season of use is not, therefore, formally designated on ephemeral range. In the planning area, 15 allotments are grazed year-long with the permittees making applications to graze at regular intervals throughout the year. Range inspections are made prior to grazing authorizations to determine if adequate forage is available or if the potential to produce forage exists. Measurements of soil moisture and volume of forage produced provide the basis upon which a grazing authorization is issued.

Activity level planning, in the form of Allotment Management Plans (AMPs), is undertaken to ensure that land use planning decisions are correctly applied on a site-specific basis. An AMP generally establishes a formal grazing system, designating the type and number of livestock and the season of use. At present, the Crescent Peak AMP is the only Allotment Management Plan that has been developed in the Stateline Resource Area; this AMP is undergoing Coordinated Resource Management Planning (CRMP) review in an effort to revise it. All "I" and most "M" category allotments are scheduled for AMP development.

Management of grazing use on the non-AMP allotments generally occurs through an informal system by which the permittee uses the location and availability of water to control the movement of livestock within the allotment. Weather conditions can also influence the location and movement of the animals. During the summer, for example, high temperatures and the lack of shade in some areas will cause livestock to seek cover and forage at higher elevations. Range improvements such as fences, spring developments, wells, pipelines, and troughs can be owned either by the permittee or the BLM; in many cases, BLM furnishes materials and the permittee provides labor for construction of projects under a cooperative management agreement.



Table 3-21. Livestock allotment use.

<u>Allotment Name</u>	<u>Class</u>	<u>Average Licensed Use (AUMs) 1975-89*1</u>	<u>Operator(s)</u>	<u>Period of Use *2</u>	<u>Kind of Livestock</u>	<u>Acres (BLM)</u>
Acton-Farrier	C	64	C. Lewis	Mar-May Sep-Nov	Cattle	41,465
Arrow Canyon	M	105	G. Perkins	Mar-May Sep-Nov	Cattle	88,108
Azure Ridge*3	I	240	J. Whitmore	Y/L	Cattle	7,295
Billy Goat Peak	I	1390	K. Nay	Y/L	Cattle	48,962
Bunkerville*5	I	2889	M. Jensen	Y/L	Horses	118,298
			C. Adams		Cattle	(P) 16,120
			D. Bundy		Horses	
			Arrowhead Cattle Co.		Cattle	
			Hughes Bros.			
Dry Lake	C	199	J. Hendricks	Mar-May	Cattle	43,873
Flat Top	C	92C	H. Wittwer	Mar-May	Cattle	5,338
Mesa		12H		Sep-Nov	Horses	
Glendale	C	0	C. Hester	No Use	Cattle	23,595
Gold Butte*6	I	2720	G-F Ranches	Y/L	Cattle	172,859
						(P) 92,264
Hen Springs	M	930	M. Jensen	Mar-May	Cattle	21,330
			J. Whitwer	Sep-Nov		
Jack Rabbit	C	104	L. Hardy	Mar-May	Cattle	2,000
			V. Knight	Sep-Nov		
			C. Simmons			
			W. Pulsipher			
Lime Spring	C	0	B. Jensen	No Use	Cattle	3,140
Lower Mormon	C	380	D. Whitney	Mar-May	Cattle	37,048
Mesa		114H		Sep-Nov		(P) 8,077

## Key

Allotment Class: I-Improve, M-Maintain, C-Custodial

(P)-LMNRA acreage

\*1- Numbers fluctuated due to ephemeral classification averages used.

\*2- Not formally designated; categories reflect past 10 years use.

\*3- Administered by Arizona Strip District.

\*4- Used only 1 year since 1976.

\*5- Includes acreage inside Lake Mead NRA.

\*6- No operator, base owners not in livestock business.

\*7- Grazing not allowed; base waters not on allotment.

\*8- Not grazed; within or partially within Ash Meadows wildlife area.



Table 3-21. (continued)

<u>Allotment Name</u>	<u>Class</u>	<u>Average Licensed Use (AUMs) 1975-89*1</u>	<u>Operators(s)</u>	<u>Period of Use*2</u>	<u>Kind of Livestock</u>	<u>Acres (BLM)</u>
Mesa Cliff	C	134C	J.-J. Hayworth	Mar-May	Horses Cattle	13,681
Mesquite Community *3	I	1440	B. Jensen	Y/L	Cattle	8,702
Muddy Mtns.*5/4	C	54H	P.Clough K. Searles	Mar-May	Cattle Horses	157,451 (P) 45,545
Muddy River	C	0	P. Lewis	No Use	Cattle	17,888
Overton Arm*5	C	0	P. Lewis	No Use	Cattle	1,822
Pittman Well	C	0	K. Searles	No Use	Cattle	(P) 2,716 34,192
Pulsipher	C	0	B. Hafen	No Use	Cattle	3,451
Rox	C	240	Keith Cutler	Oct-May	Cattle	18,062
Sunrise Mt.	C	0	Unalloted	No Use	---	34,272
Toquop Sheep	C	660	E. Larson R. Lundgren D. Lamoreau Larson-Anderson	Mar-May	Sheep	24,557
Upper Mormon Mesa	I	740C 37H	J. Riggs D.- M. Gates P. Lewis	Mar-May Sep-Nov Oct-May	Cattle	46,325
Ute*4	C	0	G. Perkins K. Searles J. Hendricks	Mar-May	Cattle	29,111
White Basin*5	M	580	E. Leavitt L. Leavitt	Mar-May Sep-Nov	Cattle	97,454 (P) 78,631
Virgin River Bottom	C	0	V. Knight C. Simmons	Y/L	Cattle	90
Mt. Stirling	I	656	Lonesome Dove Cattle Co.	Y/L	Cattle	126,888

## Key:

Allotment Class: I- Improve, M-Maintain, C-Custodial.

(P)- LMNRA acreage.

\*1- Numbers fluctuated due to ephemeral classification averages used.

\*2- Not formally designated; categories reflect past 10 years use.

\*3- Administered by Arizona Strip District.

\*4- Used only 1 year since 1976.

\*5- Includes acreage inside Lake Mead NRA.

\*6- No operator, base owners not in livestock business.

\*7- Grazing not allowed; base waters not on allotment.

\*8- Not grazed; within or partially within Ash Meadows wildlife area.



Table 3-21. (continued)

<u>Allotment Name</u>	<u>Class</u>	<u>Average Licensed Use (AUMs) 1975-89*1</u>	<u>Operator(s)</u>	<u>Period of Use*2</u>	<u>Kind of Livestock</u>	<u>Acres (BLM)</u>
Ireteba Pks.*5	I	1850	Davis-Whipple	Y/L	Cattle	193,136
Hidden Valley	I	445	Leon Sprouse	Mar-May Nov-Feb	Cattle	(P) 109,332 63,621
McCullough Mtns.	I	----	Nature Conser.	----	Cattle	228,689
Christmas Tree*5	I	----	Nature Conser.	----	Cattle	69,233 (P) 20,910
Newberry Mtn*5	C	0	T. Roden	No Use	----	31,764 (P) 37,981
Jean Lake	I	----	Nature Conser.	----	Cattle	141,082
South Point*4	C	0	E. Soto	No Use	----	16,739
Crescent Peak (AMP)	I	----	Viceroy Gold Corp.	No Use	Cattle	119,320
Roach Lake	C	292	Whipple, Davis Dawson	Y/L	Cattle	20,752
Kyle Canyon	C	0	K. Kindred	No Use	Cattle	17,514
Black Butte	C	0	R. Spurlock	No Use	Cattle	40,861
Table Mtn	C	0	Whipple-Davis	No Use	Cattle	83,102
Stump Springs*4	C	0	R. Wiley	No Use	Horses	49,557
Younts Spring	C	0	BLM	No Use	---	14,502
Lucky Strike	M	240	V. Young	Y/L	Horses	99,839
Wheeler Wash	I	1251	P. Bowman	May-Nov	Cattle	64,701
Spring Mtn*6	C	0	----	----	----	237,890
Wheeler Slope*7	C	0	----	----	----	72,277

## Key:

Allotment Class: I-Improve, M-Maintain, C-Custodial

(P)-LMNRA acreage.

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\*3- Administered by Arizona Strip District.

\*4- Used only 1 year since 1976.

\*5- Includes acreage inside Lake Mead NRA.

\*6- No operator, base owners not in livestock business.

\*7- Grazing not allowed; base waters not on allotment.

\*8- Not grazed; within or partially within Ash Meadows wildlife area.

(R)- Bureau of Reclamation Withdrawal



Table 3-21 (concluded).

<u>Allotment Name</u>	<u>Class</u>	<u>Average Licensed Use (AUMs) 1975-89 *1</u>	<u>Operator(s)</u>	<u>Period of Use</u>	<u>Kind of Livestock</u>	<u>Acres (BLM)</u>
Unallotted	C	0	----	----	----	3,732
Unallotted	C	0	----	----	----	6,786
Unallotted*5	C	0	----	----	----	10,371
Unallotted	C	0	----	----	----	62,243
Unallotted*5	C	0	----	----	----	----
Ash Meadows*8	C	0	----	----	----	120
Carson Slough	C	0	----	----	----	13,842
County Line	C	0	----	----	----	6,720
Grapevine-Rock*8	C	0	----	----	----	6,844
<b>Total</b>						<b>2,918,614</b> <b>(P/R) 414,329</b>

## Key:

Allotment Class: I-Improve, M-Maintain, C-Custodial

(P)-LMNRA acreage

\*1- Numbers fluctuated due to ephemeral classification averages used.

\*2- Not formally designated; categories reflect past 10 years use.

\*3- Administered by Arizona Strip District.

\*4- Used only 1 year since 1976

\*5- Includes acreage inside Lake Mead NRA

\*6- No operator, base owners not in livestock business.

\*7- Grazing not allowed; base waters not on allotment.

\*8- Not grazed; within or partially within Ash Meadows wildlife area.

(R)-Bureau of Reclamation Withdrawal

(Source: BLM, Las Vegas District Office files 1991).

Monitoring and evaluation of the effects of livestock grazing occurs on 18 allotments. Only those allotments placed in the "Improve" or "Maintain" categories have intensive monitoring studies at this time. Other allotments have minimal studies, such as use pattern mapping, conducted. Monitoring includes the following range studies: current year's utilization, condition and trend, cover composition, frequency, actual use, and ephemeral production. Table 3-22 indicates which allotments are being monitored and the types of studies conducted.



Table 3-22. Livestock-range study.

<u>Allotment Name and Category</u>	<u>Date Studies Established</u>	<u>Number of Years of Data</u>	<u>Type of Studies</u>
Arrow Canyon (M)	1986	3	U, UM,A,EPT
Azure Ridge (I)	1981(AZ)	6	U,PT,PACE FREQ,5'x5'PT
Billy Goat Peak (I)	1987	2	EP,EPT,U,UM,A
Bunkerville (I)	1982	4	U,PT,F,EPT,A,UM,Veg. T.
Christmas Tree Pass (I)	1985	4	U,F,EP,EPT,A,PT,CC,UM
Crescent Peak (I)(AMP)	1972	16	U,EP,A,PT,PPT,CC,F,EPT
Gold Butte (I)	1982	5	F,U,PT,EP,EPT,A,UM,Veg. T.
Hen Springs(M)	1987	2	U,UM,A,EP
Hidden Valley (I)	1987	2	U,EP,A,PT,UM
Ireteba Peaks (I)	1982	5	F,PT,EPT,EP,A,UM
Jean Lake (I)	1977,82	7	U,F,EP,A,EPT,CC,PT,UM
Lucky Strike (M)	1988	1	U,UM,A
McCullough Mtn (I)	1982	5	U,EP,A,PT,CC,F,EPT,UM
Mesquite Community (I)	1981(AZ)	7	U,PT,A,Pace Freq.,5'x5' PT
Spring Mtn.	1988	2	F,PPT,UM
Upper Mormon Mesa (I)	1987	2	EP,EPT,U,UM,A
Wheeler Wash (I)	1988	1	EP,U,UM,A
White Basin (M)	1988	1	U,UM,A,EP
Mount Stirling (I)	1988	1	U,UM,A

Note:  
Only those allotments categorized as "Improve" or "Maintain" have studies.

Key:  
U - Key area utilization.  
EP - Ephemeral Production, Allotments evaluated upon receipt of grazing application.  
EPT - Ephemeral production for crucial tortoise habitat.  
PT - Photo Trend; usually in a key area at trend or frequency plot.  
CC - Cover Composition; percent cover and plant composition based on transects.  
F - Frequency Trend.  
A - Actual Use.  
PPT - Precipitation.  
UM - Use Map.  
Veg. T. - Vegetation Trend Plot other than 5'x5'.

(Source: BLM, Las Vegas District Office files, 1991.)

## WILD HORSES AND BURROS

On December 15, 1971, Congress enacted the *Wild and Free-Roaming Horse and Burro Act*, authorizing the management of wild horses and burros on public land by the BLM. The Act mandated that wild and free-roaming horses and burros be protected from unauthorized capture, branding, harassment, or death. These animals are to be considered an integral part of the natural system based on their distribution at the time the law was enacted.



Wild horses and burros are found in many areas throughout the Stateline Resource Area, including the Spring Mountains, the Muddy Mountains, the Eldorado Mountains, in the Gold Butte region, and in the vicinity of Blue Diamond (see Map 2-3). The wild horse population is estimated at approximately 330 animals, while the planning area supports approximately 620 burros. The number of wild horses and burros occurring within the SRA represents less than 2 percent of Nevada's wild horse population and approximately 40 percent of the state's burro numbers. The Gold Butte area contains one of the largest herds of burros in Nevada, totaling an estimated 254 animals. Table 3-23 shows wild horse herd information.

Burros inhabit the lower desert areas throughout the year. Wild horses are found at lower elevations during the winter, then retreat to the mountains during the summer months. Both wild horses and burros tend to concentrate around water sources during the summer; during cool seasons, animals have been observed at distances over 10 miles from permanent water sources. In the Spring Mountains, waters are found high in the foothills, allowing wild horses and burros year-round use of the same sources. Burros found in the Muddy Mountains, Eldorado, and Gold Butte HMAs have historically used Lake Mead during the summer months, as the most reliable water source.

It is assumed that all of the wild horses and burros in the planning area are the descendants of domestic animals that either escaped from, or were released by, their owners. Many of today's wild horses are descended from registered animals released by local ranchers to "upgrade" the wild herds by introducing new genetic characteristics into the gene pool of the herd. The object of this upgrading was to produce better wild horses for eventual capture and sale or for use by the ranchers.

The colors of wild horses in the resource area range from white or light gray to black, with all colors except appaloosa represented. Most of the wild horses are bay, brown, or sorrel, but other colors, such as chestnut, pinto, roan, palomino, grulla, and buckskin, are well represented in the various herds. Some color patterns are beginning to emerge among herds in the Spring Mountains. A larger proportion of pintos are found near the west end of this range, while more buckskins and palominos occur in the wild horse herds in the eastern Spring Mountains. Burro colors grade from tan or gray to black, brown, red or pink, and occasionally white. All burro types (Somali, Nubian, Abyssinian, and Maltese) are found within the planning area. The gray or fawn color is predominant, with brown, black, pink/red, and white found in decreasing percentages. Gray or fawn burros have a black dorsal and shoulder stripe, with a few of these showing leg stripes as well. Some of the brown burros also have a faint shoulder and dorsal stripe.

The diets of wild horses and burros show a moderately low degree of overlap, with wild horses consuming more grasses and burros utilizing more shrubs. Both species consume forbs when these plants are available, although burros tend to eat more dry forbs, while wild horses prefer more dry grasses. The diets of both *equids* have a moderate to high overlap with that of cattle. Burros compete more directly than do wild horses with wildlife for forage.

Urban expansion and increased recreational use of the Red Rock Canyon NCA and Lake Mead National Recreation Area are impacting the wild horse and burro herds in the Spring Mountains and the Muddy Mountains HMAs. Increased vehicular traffic through the HMAs has resulted in a number of wild horse and burro deaths. Animals have also been shot for no apparent reason and illegal removals of wild horses and burros have been documented and investigated by the BLM.



Table 3-23. Wild horse and burro herd management areas.

Herd Area Name	Current Population Estimate		Current Herd Area Status	BLM Acres	Other Federal Acres
	Horses	Burros			
Amargosa*	0	0	HMA	10,000	0
Eldorado Mtns.	0	60	HMA	22,734	81,216
Gold Butte	0	254	HMAP	176,878	96,890
Last Chance	0	133	HMA	78,895	0
Mt. Stirling	76	0	HMA	30,855	0
Muddy Mtns.	23	13	HMA	61,226	79,473
Spring Mtn.	<u>235</u>	<u>160</u>	HMA	<u>297,653</u>	<u>0</u>
<b>Totals</b>	<b>334</b>	<b>620</b>		<b>698,241</b>	<b>257,579</b>

\*Amargosa is retained as an HMA, but with 0 animals due to a lack of forage and water on the public lands.

(Source: BLM, Las Vegas District Office files 1991).

## CULTURAL AND PALEONTOLOGICAL RESOURCES

### Cultural Resources

Cultural resources are the tangible remains of past human activities. Stateline Resource Area encompasses a unique region, being located at the interface of three distinct geographical zones: the Colorado Plateau, Mojave Desert, and Great Basin. Each zone shows evidence of the distinctive cultural groups who adapted to the natural resources of the area. All prehistoric Native Americans employed hunting and gathering methods to acquire at least some of their foods; these resource collection practices are reflected in the archeological record. Seeds, nuts, roots, and pods were collected from a variety of plants, including cacti, agave, yucca, grasses, mesquite, and pinyon pine. Stone tools, such as manos and metates used to grind the seeds and nuts, knives, sharpened stone flakes, and chopping tools, are found in archeological sites that record these plant procurement and processing activities. Rabbits, desert tortoises, coyotes, rodents, bighorn sheep, and mule deer were prey for prehistoric hunters. The atlatl, a wooden device used to throw long, stone-tipped darts, was used prior to A.D. 500; after that time, the bow and arrow became the preferred hunting weapon. Projectile points, associated debris from stone tool making, and hunting blinds mark the locations of these past events.

Hunter-gatherers moved seasonally within a series of environmental zones, living in open camps, brush structures, and caves. Extended family groups collected maturing plant resources and hunted seasonally abundant game. This adaptation to arid land resources is placed by archaeologists within the period called the Archaic. Such hunter-gatherer occupations in southern Nevada begin about 11,000 B.C., as documented by the prehistoric site of Tule Springs in the northwest Las Vegas Valley (Wormington and Ellis 1967). Heaviest use of the region occurred within the last 5000 years. Gypsum Cave, located northeast of Las Vegas, has yielded evidence of continual use by different cultural groups from about 3000 B.C. into historic times (Harrington 1933). Due to the variety of resources, availability of water, and the accessibility of shelter caves, Red Rock Canyon was also extensively used. Specific artifacts and features indicate the kinds of activities that occurred in the process of the seasonal round. Roasting pits, circular pits used primarily to roast bulbs from the agave plant,



are common in limestone geologic zones. In addition to agave, Blair (1986) notes that other plants and animals were cooked in these pits. Roasting pits are often associated with milling stones or other food processing equipment, lithic materials, and sometimes ceramics. Excavations have been conducted at several roasting pits in Hidden Valley, west of Valley of Fire. These field investigations yielded numerous artifacts, but problems with their internal stratigraphy makes dating of these features difficult.

Roasting pits are often found in association with caves or rockshelters. Aboriginal peoples commonly used these natural formations as shelters and as storage areas for small quantities of collected resources, tools, and other personal possessions. Evidence of their fires can be found in the blackened staining on the walls and ceilings of such caves. The remnants of food processing equipment and toolmaking activities, as well as seeds, baskets, sandals, and other perishable items, are often preserved within habitation sites.

Large numbers of rockshelters and caves have been recorded in the Muddy Mountains and the Arrow Canyon Range. Shelters that were extensively used often contain layers of organic deposition, called midden, within the floor and surrounding the entrance. This midden usually shows blackened soil and is filled with artifacts; a midden that has not been disturbed has excellent potential for yielding significant information on the prehistory of the region.

An area that possesses quantities of lithic material, such as stone flakes or formed tools, ceramics, animal bone or plant materials, milling equipment, and often the remains of a cooking fire within a hearth, is considered a campsite. These are generally reflective of temporary locations, on a path from spring to spring or resource to resource. Campsites are found in all areas, but are most prevalent on terraces overlooking major drainages and surrounding springs.

Other types of prehistoric archeological sites include stone features, such as rock rings, and rock art locales. Rock art is defined as the modification of a rock face by pecking (petroglyphs) or painting (pictographs) figures or designs. Rock art panels are common in certain areas, generally near water sources, along game trails, or near resource procurement locations. Sandstone with a stained or patinated surface is perhaps the best medium for illustrating this kind of aboriginal visual creativity, but limestone, basalt, and other volcanic materials were also commonly used. Although rock art designs have been attributed to all prehistoric groups, there is, at present, no positive method for dating these kinds of sites. Keyhole Canyon and the Brownstone Canyon National Register Archeological District are two site complexes within the Stateline Resource Area that have been fenced for protection and signed for interpretation.

This portion of southern Nevada was utilized by three later distinctive groups, the Lower Colorado, Virgin Anasazi, and Southern Paiute peoples. Lower Colorado Indians, such as the Mojave, conducted floodwater farming along the Colorado River south of Las Vegas Valley. They also exploited resources in the surrounding ranges and valleys. The Lower Colorado peoples lived in open camps and rancherias; thus, their sites appear in the archeological record much like those of the earlier Archaic hunter/gatherers. Buff-colored pottery is considered diagnostic of the Lower Colorado occupations.

The Virgin Anasazi were concentrated along the Muddy and Virgin Rivers, north of Las Vegas. Their population increased after A.D. 500 which coincides with the beginning of farming and the introduction of the bow and arrow into this region. The Virgin Anasazi lived in isolated hamlets or small villages, with semi-permanent sedentary pithouses or pueblo structures constructed of rock rubble and adobe. Although they supplemented their diet with hunted animals and gathered wild seeds from the region, much of their staple food came from corn, beans, and squash grown in the floodplains of the rivers. This cultural group abandoned the region around A.D. 1150. Although the reasons for this abandonment are not conclusively known, archaeologists hypothesize that a number of factors, including an increased population size, a heavy dependence on farming, and a long drought, may have forced the Virgin Anasazi from the area.



The contemporary Southern Paiute are considered the descendants of the Archaic hunter-gatherers in southern Nevada. When the first Anglo-European explorers reached this area in the late 18th-early 19th century, they observed small groups of Southern Paiutes, living in temporary brush structures and foraging among the diverse environmental zones of the region. Mesquite flowers, agave "hearts", small grass seeds such as Indian rice grass, berries, roots, and pinyon nuts formed the staples of their diet. Meat from small game, especially rabbits, desert tortoise, rodents, and lizards added animal protein. Bighorn sheep, deer, and pronghorn were hunted by individuals and as group activities. The artifacts associated with Paiute sites are reminiscent of Archaic campsites, consisting of milling stones, stone tools, and projectile points. Basketry and fiber cordage, rabbitskin robes, snares, and sandals have also been observed in dry shelters where preservation of these organic materials was possible. Brownware pottery was manufactured by the Southern Paiute; sherds of this type are used to identify archeological sites associated with this cultural group. The Southern Paiute were observed to practice limited horticulture around spring sources and along river bottoms such as the Muddy and Virgin Rivers. They grew a variety of crops, including corn, beans, squash, sunflowers, and amaranths, often constructing small dams and channels to divert water to their garden plots.

Historic use of southern Nevada began with the exploration of routes such as the *Old Spanish Trail/Mormon Road* (1844 to the early 1900s). Potosi Mine was the first mine in the region, with work begun there in 1861. Ranching was well underway by the late 1800s; completion of railroad construction in 1905 established Las Vegas as a vital Nevada community.

Historic foundations from mining sites, ranches, and quarries are found within the planning area. These site types are often difficult to identify and interpret; a trash heap and fragments of tent platforms are the only remnants of the mining tent town at Gold Butte. What appears as an old dirt road crossing the southern Nevada desert is the rutted path of the *Old Spanish Trail/Mormon Road*. These historic resources have the potential to document adaptations and technological changes not often recorded in the archival record of this region.

A Class I Cultural Resource Inventory was conducted in 1990 for all known cultural resources in SRA. Table 3-24 shows the numbers of presently identified archeological sites in the planning area, displayed by site type, considered eligible by BLM for nomination to the National Register of Historic Places (Myhrer 1990a). Table 3-25 shows the total number of known and projected to occur archeological sites in SRA, calculated from the numbers of presently identified sites and the amount of acreage inventoried for cultural resources. Three of the 19 geographic zones are considered to have received a sufficient amount of inventory to make a determination that most eligible sites have already been recorded. These zones are Mormon Mesa (61 percent surveyed), Las Vegas Valley (18 percent surveyed) and RRCNCA (18 percent surveyed). A proposal (Myhrer 1991) to limit survey in all but two subzones in Las Vegas Valley was reviewed and accepted by SHPO in 1991. A Class I inventory for RRCNCA (Myhrer 1990b) indicated that future priority work within the park's boundary should be concerned with protecting and developing known site complexes rather than conducting additional identification surveys. The Class I review was reviewed and accepted by SHPO in 1990. The data on percentage of acreage inventoried and the results of the reviews in the two reports discussed above are used as a basis to argue that most eligible sites have already been identified in the three zones.

With the exception of Mormon Mesa, Las Vegas Valley and RRCNCA zones, the percentage of acreage surveyed and the number of recorded properties is used to estimate the number of eligible sites, known and unknown, in SRA. For example, a total of 10 eligible rockshelter sites have been recorded from survey of 8 percent of acreage in the Arrow Canyon Range zone. To determine the estimated number of undiscovered eligible rockshelter sites in that zone, a calculation using percentages was used ( $10/X = 8/100$  or  $1000 = 8X$  or  $X = 1,000$  divided by  $8 = 125$ ). The number of presently identified eligible sites in Mormon Mesa, Las Vegas Valley and RRCNCA zones are considered to represent 90 percent of the total potential. Table 3-25 lists the number of known and estimated unknown eligible sites in SRA.



**Table 3-24. Distribution of the numbers of presently identified archaeological sites in SRA considered eligible.**

<u>Zones</u>	<u>Site Types</u>								<u>TOTAL</u>
	<u>RP</u>	<u>RS</u>	<u>RA*</u>	<u>RA</u>	<u>CP</u>	<u>ST</u>	<u>HT</u>	<u>RR</u>	
Red Rock Canyon	3	7	3	3	3	2	2	0	23
Muddy Mountains	1	13	1	3	4	0	2	1	25
Las Vegas Valley	0	1	0	0	9	0	4	1	15
Arrow Canyon Range	1	10	1	0	2	0	9	1	24
Virgin Mountains	3	6	1	2	1	0	4	1	18
Indian Springs V	0	1	0	0	2	1	9	1	14
Muddy River	0	2	0	1	2	4	3	1	13
Meadow Valley Mtns	0	0	0	1	4	0	0	0	5
Virgin River	0	1	0	0	1	9	1	1	13
Meadow Valley Wash	0	1	0	1	2	0	1	1	6
Goodsprings V	1	2	1	0	1	0	5	1	11
Newberry Mtns	0	1	0	1	2	0	1	0	5
McCullough Mtns	0	1	0	1	2	0	3	1	8
Mormon Mesa	0	1	0	0	2	0	1	1	5
Pahrump Valley	2	1	0	1	1	0	1	1	7
Roach/Jean Lakes	0	1	0	0	2	0	2	1	6
Eldorado Valley	0	1	0	1	2	0	3	1	8
Piute Valley	0	1	0	0	1	0	4	1	7
Rainbow Gardens	0	1	0	0	1	0	1	0	3
Totals	<u>11</u>	<u>52</u>	<u>7</u>	<u>15</u>	<u>44</u>	<u>16</u>	<u>56</u>	<u>15</u>	<u>216</u>

Key:  
 RP - Roasting Pit, RS - Rockshelter, RA\* - Rock Art component at Rockshelter site,  
 CP - Camp site, ST - Prehistoric structure, HT - Historic, RR - Rock ring/feature.

Of the 1,003 archaeological sites recorded on BLM-managed land in SRA, 216 are considered to be eligible for nomination to the NRHP or are at present listed on the Register. Based on the calculations using the percentage of surveyed acreage times the number of known sites considered to be eligible in each zone, an estimated total of 7,791 eligible sites are present within SRA. At present, 31,000 acres have been determined as potential Traditional Lifeway Areas, and it is expected that within the life of the Plan, an additional 50,000 acres will be identified. These areas would be subject to treatment as eligible for nomination to the NRHP.

### **Paleontological Resources**

Paleontological resources (fossils) are remains or traces of plants and animals that existed during the 600 million year geological history of southern Nevada. Fossils are unique, non-renewable resources which provide clues to the history of life on earth and, as such, are considered to have scientific value. A minimal amount of paleontological research has been conducted in this region. In the 1930s, the Southwest Museum conducted an excavation of Gypsum Cave, located northeast of Las Vegas, recovering the skeletal remains of an extinct



**Table 3-25. Estimated numbers of eligible archaeological sites in SRA.**

<u>Zones</u>	<u>Site Types</u>								<u>TOTAL</u>
	<u>RP</u>	<u>RS</u>	<u>RA*</u>	<u>RA</u>	<u>CP</u>	<u>ST</u>	<u>HT</u>	<u>RR</u>	
Red Rock Canyon*	3	8	3	3	3	2	2	0	24
Muddy Mountains	17	217	17	50	67	0	33	17	418
Las Vegas Valley*	0	1	0	0	10	0	4	1	16
Arrow Canyon Range	13	125	13	0	25	0	113	13	302
Virgin Mountains	60	120	20	40	20	0	80	20	360
Indian Springs V	0	100	0	0	200	100	900	100	1400
Muddy River	0	100	0	50	100	200	150	50	650
Meadow Valley Mtns	0	0	0	17	67	0	0	0	84
Virgin River	0	50	0	0	50	450	50	50	650
Meadow Valley Wash	0	14	0	14	28	0	14	14	84
Goodsprings V	100	200	100	0	100	0	500	100	1100
Newberry Mtns	0	100	0	100	200	0	100	0	500
McCullough Mtns	0	50	0	50	100	0	150	50	400
Mormon Mesa*	0	1	0	0	2	0	1	1	5
Pahrump Valley	200	100	0	100	100	0	100	100	700
Roach/Jean Lakes	0	33	0	0	66	0	66	33	198
Eldorado Valley	0	50	0	50	100	0	150	50	400
Piute Valley	0	50	0	0	50	0	200	50	350
Rainbow Gardens	0	50	0	0	50	0	50	0	150
Totals	<u>393</u>	<u>1369</u>	<u>153</u>	<u>474</u>	<u>1338</u>	<u>752</u>	<u>2663</u>	<u>649</u>	<u>7791</u>

Key:  
 RP - Roasting Pit, RS - Rockshelter, RA\* - Rock Art component at Rockshelter site,  
 CP - Camp site, ST - Prehistoric structural remains, HT - Historic remains, RR - Rock ring/feature;  
 \* - estimated number of eligible sites in zone calculated using a 90 percent survey percentage.

ground sloth and horse (Harrington 1933). The early 1960s scientific explorations at the Tule Springs locality (northwest of Las Vegas) yielded data on archeology, the Quaternary geology of the area, and specimens of extinct Pleistocene vertebrates (Wormington and Ellis 1967). These specimens comprised the fossilized bones of camel, horse, mammoth, and bison. Since all of the recovered species would have utilized abundant grasses and brush in open country, this information provided important clues about past environmental conditions in the Las Vegas Valley.

A recent paleontological survey on the Eglinton Escarpment (in the north Las Vegas Valley, about 5 miles east of the Tule Springs investigations) discovered one significant paleontological site, containing numerous specimens, including a camel jaw. In 1991, construction activities along the Kern River pipeline uncovered a mammoth tusk and tooth in this escarpment. Other potential areas for paleontological finds are the dry lake beds and shorelines of Pleistocene age Ivanpah and Roach Lakes, located southwest of Las Vegas.



Trace fossilized imprints in limestone sediment at the north end of the Arrow Canyon Range are considered evidence of 20 million year old large birds (pers. communication, Don Higgins 1990). There are also unconfirmed reports of fossilized mammoths in this area. The complete skeleton of a 20,000 year old Shasta ground sloth was discovered in May, 1991 near the California-Nevada border and is currently undergoing analysis prior to curation.

Invertebrate fossils occur in several limestone formations, especially in the Spring Mountains, Dry Lake, Arrow Canyon, Las Vegas, Mormon and Virgin Mountain ranges. Fossilized trees, in the form of petrified wood, are found in Aztec Sandstone outcrops; the east base of the Red Rock Escarpment is one such locality.

## **LANDS**

### **Land Status**

The planning area for the Stateline Resource Management Plan/Environmental Impact Statement comprises approximately 3.7 million acres of public lands managed by the BLM in southern Nevada. Of that total, approximately 3 million acres are located in Clark County and 700,000 acres in southern Nye Counties (see Map 1-2).

Clark County contains 5,173,760 acres and is the sixth largest county in Nevada. It is the state's most populated county, with two-thirds of Nevada's population living within its boundaries (U.S.D.I., BLM 1988). The Las Vegas Valley is the site of explosive development, with approximately 6,000 people moving into the urban area monthly. The cities of Henderson, Las Vegas, North Las Vegas, and the unincorporated areas surrounding these municipalities comprise one of the fastest growing metropolitan areas in the United States. The remainder of Clark County continues to be predominantly rural, typified by a number of small communities. Several outlying "boom towns", such as Laughlin and Mesquite, are now experiencing dynamic population growth. The problems with rapid urbanization, formerly applicable only to the Las Vegas Valley, are now affecting these new cities. Sixty-seven percent of Clark County is public land administered by the BLM.

Nye County consists of 11,560,960 acres and is Nevada's largest county. Although BLM manages a total of 6,697,321 acres of public land in Nye County, only 696,421 acres, located in the southern portion of the county, are administered by the Stateline Resource Area.

Most public lands in southern Nye County occur in large blocks; private holdings are relatively small. The population of the county is concentrated at four locations: Pahrump, Amargosa, Ash Meadows, and Lathrop Wells. The two largest communities are Pahrump, population 5,000, and Amargosa, with approximately 1,800 inhabitants. Historically, the lands have been used for grazing, mining, and agricultural purposes; modern use is generally restricted to agriculture and private residences (USDI, BLM, 1984).

Other federally-administered lands, including the Nellis Air Force Base, Nellis Air Force Range, Nevada Test Site, Lake Mead National Recreation Lands, Bureau of Reclamation Lands, Death Valley National Monument, Toiyabe National Forest, Moapa Indian Reservation, Desert National Wildlife Range, and Ash Meadows National Wildlife Refuge are situated either within or contiguous to the planning area.



**Table 3-26. Land cases pending and authorized.**

	Pending		Authorized	
	Cases	Acres	Cases	Acres
Rights-of-way				
Roads	19	3,019	142	28,474
Utilities	82	109,278	605	56,232
Communication Sites	25	51	195	1,441
Other	24	12,515	231	182,040
Recreation and Public Purposes				
Leases	145	43,590	71	9,740
Patents	1	140	36	32,011
Sales				
FLPMA & Other	129	4,604	130	23,814
Burton/Santini	276	2,030	95	775
Small Tract	0	0	2	5
Acquired Lands	0	0	167	25,277
Airport Leases	6	7,300	7	2,507
Carey Act	1	160	0	0
Desert Land Entries	14	3,436	2	498
Exchanges	6	3,377	6	37,878
Indian Allotments	145	22,988	1	160
Land Grants	0	0	2	81
Leases/Permits	7	115	2	6
Trespass	49	208	0	0
Withdrawals	4	6,231	49	631,734
<b>Totals</b>	<b>933</b>	<b>219,042</b>	<b>1,743</b>	<b>1,032,673</b>

(Source: BLM, Las Vegas District Office files 1991).

## Public Land Disposal

### Land Available for Recreation and Other Public Purposes

Since the passage of the *Recreation and Public Purposes Act* in 1926, local governments and non-profit organizations have been able to acquire Federal land at little cost for a variety of purposes. Within the Stateline Resource Area, common R&PP uses are parks, community centers, schools, libraries, fire stations, public golf courses, law enforcement facilities, correctional institutions, and water and sewage treatment facilities. Table 3-26 shows the number of R&PP leases and sales pending or authorized in the planning area. Map 2-4 depicts the locations of the existing public land disposal areas.



## Land Exchanges

Section 206 of FLPMA provides for the exchange of public lands administered by BLM and may involve private landowners, non-Federal entities, and Federal departments or agencies. In recent years, four private exchanges have taken place within the planning area. Map 2-4 depicts the locations of the existing public land disposal areas. Public lands were acquired by the U.S. Forest Service for the Toiyabe National Forest in the Lake Tahoe area. The Howard Hughes Properties Exchange added lands to the BLM-administered Red Rock Canyon Recreation Lands (now Red Rock Canyon National Conservation Area) in exchange for adjacent public lands more appropriate for development.

Other exchanges in the Stateline Resource Area have been made through legislative action. The Aerojet Exchange involved the exchange of public lands within the Las Vegas Valley for riparian lands in Florida that are administered by the U.S. Fish and Wildlife Service. Other exchange proposals are pending evaluation which would add public lands to the U.S. Forest Service-administered lands or to other BLM districts.

## Land Sales

The sale of public lands can occur by two methods: through legislative action or as a result of land use planning. Legislative actions to sell public lands are usually in response to special circumstances and are site-specific with strictly identified goals, procedures, and duration. Public land sales which result from land use planning must meet specific criteria identified in Section 203 of FLPMA and the tracts of public lands must be specifically identified by legal description or on a map. Map 2-4 depicts the locations of the existing public land disposal areas.

Public land sales were conducted under the authority of the *Small Tract Act* of 1938 during the 1950s and 1960s; BLM disposed of several thousand acres of public land throughout the Las Vegas Valley. Not all of the 1.25, 2.5, and 5 acre tracts were sold which created a severely fragmented ownership pattern that precludes efficient and effective public land management. This situation has affected the orderly growth of the metropolitan area. This land ownership problem in the the Las Vegas Valley, in concert with the rapid growth of the area, are the major influences on the public land disposal program in the SRA.

On December 23, 1980, Congress enacted Public Law (PL) 96-586, commonly known as the *Santini-Burton Act*, which provides for the disposal of certain public lands in Clark County (Las Vegas Valley), thereby generating revenues, 85 per cent of which are deposited in the General Fund. Congress has discretionary power to appropriate these funds and to reimburse the Soil and Water Conservation Fund for the acquisition of environmentally sensitive lands in the Lake Tahoe Basin. Other distribution of the funds would include 10 per cent to the county or city in whose jurisdiction the lands are located and 5 per cent to the state. The Act requires that both BLM and the local governmental entity having jurisdiction on the land agree on those lands to be offered for sale; without agreement, the land cannot be offered. The Act also required that the first sale offering occur within one year of enactment of the law.

BLM and the local governmental entities affected by Santini-Burton (Clark County, City of Las Vegas, City of North Las Vegas) adopted the regulations promulgated for Section 203 of FLPMA to implement the provisions of PL 96-586. At the time of enactment, there was in excess of 9,300 acres of public land identified for disposal.

The *Clark County MFP* provides for the disposal of approximately 108,107 acres of public land within the Las Vegas Valley, with priority to the *Santini-Burton Act* area. It provides for the disposal of all public parcels of land (totalling 3,494 acres) within the settled limits of the communities of Indian Springs, Goodsprings, Searchlight, Nelson and Laughlin. All isolated parcels of public land of 640 or less coterminous acres (totaling 11,851 acres) in the general settlement areas of Eastern Pahrump Valley, Mountain Springs Community, Sandy (Mesquite Valley) Community, Jean, Sloan, Blue Diamond, Moapa Valley Area, Virgin Valley Area, and Kyle Canyon Road Small Tract Area were also designated for disposal.



Under the MFP, 1,071 acres of public land in the Las Vegas Valley have been sold through FLPMA sale and 3,259 acres through R&PP sale. Since the enactment of the *Santini-Burton Act*, 1,645 acres of public land have been sold through Santini-Burton sale. Of the 1,280 acres of public land identified for sale in Laughlin, 1,210 acres of this land are under R&PP lease or right-of-way to different Clark County entities. The uses are varied and include sewage treatment facilities, a fire station, school site and a public golf course.

The *Nevada Land Transfer and Authorization Act* of 1989 (PL 101-67-Apex Project) provides for the sale of certain public lands in Clark County to meet national defense and heavy-use industrial purposes. Originally 21,000 acres of public land were withdrawn for the sale. Kerr-McGee Chemical Corporation has purchased 3,351.07 acres of these lands for an ammonium perchlorate production facility. Clark County has zoned the area as a heavy-use industrial zone. On November 27, 1990, BLM approved the conceptual Master Plan for the Apex Heavy Industrial Park, fulfilling that requirement of the Apex legislation. The Secretary of the Interior is in the process of establishing a sales agreement, not to exceed 10 years, for disposal of the remaining lands.

Public Law 85-339, dated March 6, 1958, provided for the sale of approximately 126,775 acres of public land in the Eldorado Valley to the State of Nevada. Actual inventory of the lands described in the act, dated July 31, 1979, determined a total of 128,401 acres. The State of Nevada relinquished and did not apply for 21,009 acres of the lands, leaving a total (based on the inventory) of 107,391 acres in their application. To date, none of the *Eldorado Valley Act* lands have been purchased. The Nevada State BLM Office has recently received a request from the State of Nevada for the purchase of the entire 107,391 acres of the Eldorado Valley lands.

The City of North Las Vegas has submitted a request to purchase approximately 7500 acres of public land within the city limits of North Las Vegas. The lands will be available for disposal under the applicable provisions of FLPMA. The City of North Las Vegas proposes to utilize the lands obtained from BLM to promote orderly and quality urban development and redevelopment projects within the city. Presently the sale proposal is under appeal by the Sierra Club and the possibility of a land exchange is being explored.

Public Law 99-548, dated October 27, 1986, withdrew, subject to existing rights, all public lands within the city limits of Mesquite from all forms of entry and appropriation under the public land laws, including the mining laws, and from operation under the mineral leasing and geothermal leasing laws. The act identifies three transfer areas and a public lands retention area. The Act withdraws the lands for a period of ten years, and provides a 6 year exclusive right to the City of Mesquite to identify which lands within the three transfer areas they wish to purchase.

The Record of Decision for the *Esmeralda-Southern Nye RMP-Planning Area B*, dated October 9, 1986, identifies a pool of 47,200 acres of public land for disposal during the life of the plan. This land is to meet urban-suburban expansion or agricultural development needs for the communities within the RMP area. The 47,200 acres identified for disposal consist of 26,880 acres in Amargosa, 5,240 acres in Lathrop Wells and 15,080 acres in Pahrump.

#### Leases/Permits

Private and commercial use of public lands administered by BLM are provided for under Section 302 of FLPMA. This section addresses leases for long-term use of public lands, including development and amortization of capital investment; permits for short-term use and little or no development of lands; and easements to assure that uses of public lands are compatible with non-federal lands. Land uses authorized within the SRA have included a motocross site in Eldorado Valley, an apiary site in Searchlight, and geotechnical and groundwater study sites in the Moapa, Dry Lake Valley, Blue Diamond, and Goodsprings areas. Pending applications for the use of public lands include horse corrals in the Blue Diamond area and a Peace Camp near the Nevada Test Site in Nye County.



Land use authorizations are processed on a case-by-case basis as proposals are received. The authorization process involves the analysis of potential impacts to the environment which could result from the proposed action. An Environmental Assessment or an Environmental Impact Statement, if appropriate, is prepared and resource protection stipulations are developed prior to the approval of such uses.

### Airports

Several airports and numerous airstrips within the planning area are located on public lands under lease agreements authorized pursuant to the *Airport Act* of 1928. The Las Vegas area is serviced by two private airports (McCarran and North Las Vegas airports) and one airport, Sky Harbor, located on public lands.

Landing strips or smaller airports, with limited facilities, are found on public lands within the planning area in both Clark and Nye Counties. Public airport facilities are located in Searchlight, Mesquite, Sandy Valley, Wells, Ash Meadows, Pahrump, and Lathrop Wells. Airport lease applications are pending for the use of public lands in the Las Vegas and Piute Valleys, and Nye County has expressed a need for additional airports and has filed applications for prospective airport sites.

### Classifications, Withdrawals, and Segregations

Classifications, withdrawals, and segregations place restrictions on the use of the public lands. Appendix J contains the legal description of the existing Public Land classifications, withdrawals, and segregations in effect as of May 31, 1990.

## **NATURAL AREAS**

The areas described below and shown on Map 2-5 have been designated as "Natural Areas" containing special values in wildlife, recreation, and other resources.

### **Pine Creek Research Natural Area**

Pine Creek Research Natural Area was designated in 1965 to encompass a 150 acre sector in the north fork of Pine Creek Canyon, on the eastern flanks of the escarpment in the Red Rock Canyon NCA. The area is also considered a research natural area due to natural characteristics which are unusual or of scientific interest. Pine Creek supports a large variety of rare and endemic plant species, including several fern species. Another member of a relict plant community is ponderosa pine, which occurs at 3,900 feet; this stand has extended the lower limits of the elevation range for this species.

### **Virgin Mountains Natural Area**

This area contains 6,560 acres located at the upper elevations of the Virgin Mountains, south of Mesquite, Nevada. The Virgin Mountains are of particular scientific interest since it encompasses features representative of three major North American desert life zones. The southern Great Basin, eastern Mojave, and northern Sonoran deserts merge within the boundaries of the Natural Area. Several vegetation communities combine in this range and plant species considered to be at the outer edges of their ranges are found in this natural interface zone.

### **Sunrise Mountain Natural Area**

The Sunrise Mountain Natural Area is comprised of 10,240 acres, located 8 miles east of Las Vegas. The area was designated for its unique geologic, biologic, and esthetic values. Frenchman Mountain, a widely recognized



landmark on the eastern Las Vegas horizon, forms a dominant feature of this Natural Area. Lyndon Limestone and Pioche Shale deposits are exposed along the slopes of Sunrise and Frenchman Mountains. The olive green, brown, and reddish purple beds of Pioche Shale contain fossil trilobites of the Lower Cambrian genus *Olenellus*. Two threatened and endangered plants, the bearpoppy (*Arctomecon californica*) and Utah agave (*Agave utahensis* var. *eborispina*) are present in the area.

## RECREATION RESOURCES

Public lands within the Stateline Resource Area contain ecologically diverse landscapes that include mountains, dry lake playas, joshua tree forests, sand dunes, sandstone bluffs, and riparian washes and springs. This diversity offers outstanding opportunities for casual and organized recreational activities. Demand for such opportunities is increasing due to the expansion of the Las Vegas metropolitan area.

Casual or dispersed recreational opportunities are the principle opportunities available to visitors within the planning area and are defined as opportunities that require a variety of sites, yet need no special facilities. These opportunities include caving, photography, automobile touring, backpacking, birdwatching, hunting, primitive camping, hiking, rock climbing, and competitive OHV events. Water-based recreation is available along desert streams and springs. Tables 3-27 provides the best available estimates for these activities in the planning area. Table 3-28 lists the number and types of Special Recreation Permits issued by the Stateline Resource Area each year.

### Areas of Recreational and Scenic Importance

The areas described below and shown on Map 2-5 have been recognized for their recreational values.

#### Red Rock Canyon National Conservation Area

Red Rock Canyon National Conservation Area (NCA), designated in 1990 and located on the eastern slope of the Spring Mountains approximately 15 miles west of Las Vegas, contains approximately 83,100 acres of unique geological, biological, and cultural resources. The predominant geologic feature is the Keystone Thrust Fault which includes a spectacular 3,000 foot multi-colored sandstone escarpment. A high concentration of prehistoric archeological sites are found within the NCA and in Brownstone Canyon; this area has been listed on the National Register of Historic Places as a prehistoric archeological district.

Visitors come from all 50 states and from a wide variety of foreign countries. Annual visitation exceeds 550,000 visits. Picnicking, hiking, rock climbing, photography, bicycle riding, wildlife viewing (desert bighorn sheep are frequently seen), and vehicle sightseeing are popular recreational pursuits within the RRCNCA. Facilities include a visitor center, with interior and exterior interpretive displays, a 13 mile paved scenic loop drive with overlooks and access roads to picnic areas and trailheads, 15 miles of hiking trails, sanitary facilities, interpretive signs, three picnic areas, and two wells. The 13 mile scenic loop is a BLM-designated National Back Country Byway. The NCA staff conduct active public educational outreach, interpretive, and volunteer programs.

In 1970, the 4,930 acre Virgin River Recreation Lands were designated for their open-space, wildlife, and river access values. The area contains scenic sandstone bluffs, flowing water, riparian vegetation, and important waterfowl and fish habitats. Recreational opportunities include camping, photography, rock climbing, nature study, and hiking. Several species of native fish and waterfowl depend on the habitat provided by the Virgin River which is the focal point of the recreation area. These wildlife resources are managed under a Habitat Management Plan (HMP) which limits off-highway vehicle use to existing roads, trails, and washes and restricts competitive events to non-speed events throughout the area.



**Table 3-27. Estimated visitor use in Stateline Resource Area (1989).**

<u>Activity</u>	<u>Visits</u>	<u>Visitor Hours</u>
OHV Travel	25,300	1,009,400
Other Motorized	500,000	1,500,000
Non-Motorized	200,000	800,000
Camping	10,000	120,000
Hunting	32,800	138,800
Site Based	80,000	320,000
Red Rock Canyon	<u>600,000</u>	<u>3,000,000</u>
<b>Totals</b>	<b>1,448,100</b>	<b>6,887,800</b>

(Source: BLM, Las Vegas District files, 1991.)

**Table 3-28. Special Recreation Permits (1989).**

<u>Activity</u>	<u>Numbers of SRP</u>	<u>Percent</u>
Motion Pictures	4	.06
Motorcycle Races*	15	.21
Charity Events	6	.09
Climbing Events	2	.03
Buggy Races*	11	.17
Quarterscale Airplanes	2	.03
Photography	10	.14
ATV	6	.09
Fun Run	2	.03
Trail Rides	5	.07
Wagon Trains	1	.01
Antique Auto Rally	1	.01
Dog Trials	2	.03
Splat Ball	1	.01
Hot Air Balloon	1	.01
Ultralight Aircraft	<u>1</u>	<u>.01</u>
<b>Totals</b>	<b>70</b>	<b>100</b>

(Source: BLM, Las Vegas District files, 1991.)



### Las Vegas Dunes Off-Highway Vehicle Play Area

The Las Vegas Dunes, located 15 miles northeast of Las Vegas, encompasses approximately 9,000 acres formally designated as an off-highway vehicle (OHV) play area. The topography is comprised of rolling sand dunes, small bluffs, and numerous washes and is easily accessible from the Las Vegas metropolitan area. The area is extensively used for recreational OHV riding, touring and competitive events. Approximately four ATV events, two motorcycle events and two buggy events use all or portions of the OHV area yearly.

### Backcountry Byways

Three nationally designated back country byways are found in the Stateline Resource Area. Back Country Byways are a component of the National Scenic Byway system and are located along back country roads that offer scenic and recreational opportunities. The range of road types may vary from a single track bike trail to a narrow, low speed, paved road that traverses back country areas of high scenic and public interest value. The three Back Country Byways located in the Stateline Resource Area are:

The Red Rock Canyon Scenic Loop is 13 miles of paved road with designated turnouts, parking areas, interpretive signs, picnic areas, and hiking trails.

The Gold Butte Back Country Byway contains approximately 60 miles of paved, graded dirt, and jeep trail roads within an area of highly scenic desert landscapes. Recreational opportunities include pleasure driving, hiking, camping, and nature study.

The Bitter Spring Back Country Byway includes 28 miles of high clearance/four-wheel drive road located in highly scenic geologic formations. Recreational opportunities include exploring, hiking, camping, nature study, and pleasure driving.

All three byways have entrance, interpretive, and directional signs and are regularly patrolled.

### Caves

The resource area has approximately 12 caves of regional or national importance. The most significant cave is Gypsum Cave, which has been evaluated for nomination to National Register of Historic Places under the eligibility established in the National Historic Preservation Act of 1966, as amended, and specified in 36 CFR Parts 60 and 800. Gypsum Cave is considered eligible for nomination under criterion (d) which includes sites "that have yielded, or may be likely to yield, information important in prehistory or history" (36 CFR 60.4d). An archaeological excavation of this cave, conducted in the 1930s, documented occupations by aboriginal hunter-gathers thousands of years in the past. The scientific data that the cave yielded continues to be important in reconstructing the prehistory of the region. Today, the cave appears much as it did when the archaeologists conducted the 1930-1931 excavations.

The Desert Cave is a regular solution cavity. At one time, a number of stalactites and stalagmites were present, creating a significant speleologic resource; due to high vandalism few of these remain. The entrance to the cavern is relatively small, limiting access to two people who could enter at one time. The length of the cave is 284 feet and is separated into several rooms. The highest point of the ceiling is 9 feet and the width, at the widest point, is 125 feet.

Devil's Throat is an unusual geologic formation, located in Gold Butte, Nevada. Devil's Throat is regarded as a collapsed sink - a type of sinkhole. The sink is approximately 120 feet wide and 130 feet in depth.



## **Recreation Management Areas**

The Stateline Resource Area has three Special Recreation Management Areas (SRMAs) and one Extensive Recreation Management Area (ERMA) (see Map 3-14). These Recreation Management Areas (RMAs) are:

**Red Rock Canyon NCA:** See previous analysis.

**Clark County SRMA:** The SRMA is located in southern Nevada, south of Las Vegas, sandwiched between the California border and Lake Mead National Recreation Area. The SRMA contains approximately 1,326,864 acres. The primary purpose for the SRMA is to provide for OHV recreation opportunities with the following management objectives:

- To manage OHV events in a manner that reduces impacts to other resource values such as wilderness, desert tortoise and bighorn sheep habitat, and cultural resources.

- To provide a wide variety of recreation opportunities, including OHV freeplay and touring, hunting, camping, landsailing, picnicking, hiking and sightseeing.

- To monitor and mitigate the effects that OHV activities have on other resources and values.

- To educate the public with regard to the appropriate uses of the Public Land including OHV etiquette.

The primary management issues in this SRMA include resource protection, visitor safety, impacts to the local and regional economy, and area administration and use supervision.

**Spring Mountain SRMA:** The SRMA is located in southern Nevada west of Las Vegas and southeast of the Nevada Test Site. The SRMA contains approximately 566,701 acres. The primary purpose of the SRMA is to provide both extensive and intensive recreation opportunities in the Desert View Natural Environmental Area with the following management objectives:

- Provide for a wide variety of recreation opportunities, including OHV touring, hunting, camping, picnicking hiking, horseback riding, and sightseeing.

- Educate the public with regard to appropriate uses of the Public Land including OHV etiquette and appreciation of desert resources.

- Reduce conflicts between users seeking a variety of recreational opportunities.

- Reduce conflicts and impacts to other resources caused by recreation-related activities.

The primary management issues in the SRMA include environmental education, resource protection, and area administration and use supervision.

**Stateline ERMA:** The ERMA is located in southern Nevada, to the east and west of Las Vegas; essentially all lands that are not covered by Red Rock Canyon SRMA, Clark County SRMA, and Spring Mountain SRMA. The ERMA contains approximately 2,243,358 acres of public land. The primary purpose of the RMA is to provide for OHV recreation opportunities on suitable lands and dispersed opportunities throughout with the following objectives:



To manage OHV events in a manner that reduces impacts to other resource values such as wilderness, desert tortoise and bighorn sheep habitat, and cultural resources.

To manage and protect cultural resources in Arrow Canyon through interpretation, site protection, and user awareness.

To manage the Las Vegas Dunes and Big Dune for OHV free-play opportunities.

To manage the Gold Butte area, including Whitney Pockets and Virgin Mountain for semi-primitive recreation opportunities including hiking, camping, vehicle touring, and sightseeing.

To manage the Muddy Mountains for primitive and semi-primitive recreation opportunities including hiking, camping, sightseeing, and interpretation.

To manage the Sunrise Mountain area for its natural values and to modify visitor use to protect natural values.

To provide a wide variety of dispersed recreation opportunities throughout the ERMA, including OHV free-play, touring, hunting, camping, picnicking, hiking, and sightseeing.

To inventory and plan for additional back country byways.

The primary management issues in the ERMA include resource protection, visitor safety, area administration and use supervision, and meeting recreation opportunity demands.

### **Recreation Opportunity Spectrum**

All public lands in the planning area have inherent recreational value and offer some level of opportunities for recreational activity. The Recreation Opportunity Spectrum (ROS) process identifies recreation opportunities on the basis of the area's setting and activities. Map 3-15 shows the five recreation opportunities available in the planning area: semi-primitive nonmotorized, semi-primitive motorized, roaded natural, rural, and modern urban. Table 3-29 displays the number of acres for each Recreation Opportunity Spectrum class contained in the planning area.

#### **Semi-Primitive Nonmotorized**

In the SRA, 11 areas (totaling 276,570 acres) have been identified as having Semi-Primitive Nonmotorized recreation opportunities. These areas are primarily wilderness study areas that have retained a predominantly unmodified environment. These areas do not receive high visitor use and there are very few managerial controls or restrictions. Motorized use does not occur in these areas because of ruggedness of terrain. Recreational activities that occur in these areas include hiking, camping, climbing, enjoying scenery, nature study, and hunting.

#### **Semi-Primitive Motorized**

Semi-Primitive Motorized recreation opportunities have been identified in 18 areas comprising 651,414 acres of the planning area. These areas are primarily wilderness study areas, areas adjacent to wilderness study areas that have retained a high degree of naturalness and lack of roads, and remote areas that have retained the same characteristics noted above. These areas receive low to moderate visitor use; few managerial controls and restrictions apply. Motorized use occurs in these areas to a limited degree. Recreational activities that occur in these areas include OHV touring on existing roads, trails, and washes, hiking, camping, enjoying scenery, climbing, nature study, and hunting.



**Table 3-29. Recreation Opportunity Spectrum.**

<u>ROS Classes</u>	<u>Acres</u>
Primitive	0
Semi-Primitive Nonmotorized	276,570
Semi-Primitive Motorized	651,414
Roaded Natural	2,268,086
Rural	350,626
Modern Urban	<u>124,645</u>
<b>Totals</b>	<b>3,671,341</b>

#### Roaded Natural

The majority of the SRA (2,267,872 acres) has been identified as having Roaded Natural recreation opportunities. These areas include most of the valleys and basins such as the Jean and Roach Dry Lake area, El Dorado Valley, the northern portions and along the Gold Butte Road in the area south of Mesquite, below the escarpment along the scenic loop and along the State Highway in Red Rock Canyon, and the majority of the Amargosa Valley. Visitor use can be moderate to high with managerial controls being low to high. Specific opportunities include picnicking, hiking, OHV touring, free-play, and events, camping, nature study, enjoying scenery, and interpretive activities.

#### Rural

Five areas (350,626 acres) have Rural Recreation opportunities. These are areas where group affiliation is prevalent, recreation facilities are more available, and the natural environment is less important. Characteristic of these areas are the Pahrump Valley, Sandy Valley, and the Sunrise Mountain/Rainbow Gardens/Las Vegas Dunes area. These areas are characterized by a modified environment where the sights and sounds of humans are readily available. Visitor use can be moderate to high. Recreational activities can include picnicking, hiking, OHV touring and free-play, shooting, enjoying scenery, bicycling, spectator sports, competitive games, and interpretive activities.

#### Modern Urban

Two areas contain Modern Urban recreational opportunities. These areas include the Las Vegas Valley and in the vicinity of Laughlin. These areas offer opportunities to experience affiliation with individuals and groups. Experiencing the natural environment and using outdoor skills is unimportant. These areas have highly modified environments where the sights and sounds of human use predominate. Generally, modern facilities (such as those found in a county or city park) are provided for the convenience of large groups of people. Recreation activities can include anything and everything.

### **WILD AND SCENIC RIVERS**

No wild and scenic rivers have been designated in the SRA. The Virgin River was, however, identified as having outstandingly remarkable scenic, geologic, fisheries and wildlife values. Although the river was removed from the National Park Service National Rivers 1982 Inventory (NRI), the values for which it was originally included are considered in this eligibility and classification process.



The Virgin River traverses three states, originating north and east of Zion National Park and flowing through southwestern Utah, the Virgin River Gorge in Arizona, finally entering Lake Mead in Nevada. The total river segment covers 76 miles, from just above Hurricane, Utah to Lake Mead; this eligibility and classification determination covers the 25 mile section in Nevada. Table 3-30 lists land tenure for the Virgin River, by agency; data in the table were obtained from *Virgin River Habitat Management Plan* (USDI, BLM 1984), Stateline Resource Area, Las Vegas District.

Study Process - The wild and scenic river study process consists of three steps:

Determine if the river segment(s) is eligible for wild and scenic river designation.

Determine the potential classification of the river segment(s) as wild, scenic, recreational, or any combination thereof.

Conduct a suitability study/legislative EIS To determine if the river segment(s) is suitable for designation to the Wild and Scenic Rivers System.

Specific study procedures are found in BLM Manual 8351, in the final revised U.S. Departments of Agriculture and Interior Guidelines, and in *Federal Register*, Vol. 7, No. 173, September 7, 1982. The guidance recommends that all three steps be completed during the development of a Resource Management Plan. If this evaluation cannot be completed during the identified time period, the study/EIS step may be deferred for up to 5 years. Minimum determinations in an RMP, involving a potential wild and scenic river, must include decisions on eligibility and classification.

**Table 3-30. Land status within the Virgin River habitat management area.**

Status	Acres	Percent
Private	8,615	51
Nevada Department of Wildlife	2,323	14
BLM-Virgin River Recreation Lands	2,890	17
BLM-Other	1,934	12
Lake Mead National Recreation Area	827	5
Bureau of Reclamation	206	1
<b>Total</b>	<b>16,795</b>	<b>100</b>

(Source: BLM, Las Vegas District files, 1991.)

Study Criteria - To be eligible for inclusion in the national system, a river segment must be free-flowing, and the river and its adjacent area must possess at least one outstandingly remarkable value. There are no specific requirements regarding the length or flow of an eligible river segment. Length and flow are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated. The minimum study corridor includes the river and the adjacent lands to 0.25 miles from the river's edge. A wider corridor may be studied if inclusion could facilitate resource management in the river area. If a river segment is determined to be noneligible during the planning process, further study should be discontinued. Planning records must document the basis for the noneligibility determination. A river segment's potential classification depends on the condition of the river and adjacent lands as they exist at the time of the study.



The *Wild and Scenic Rivers Act* specifies three classifications for eligible rivers: wild, scenic and recreational.

To be classified wild, a river segment must be free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted.

To be classified scenic, a river segment must be free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. The area must not show substantial evidence of human activity.

To be classified recreational, a river segment may be readily accessible by road or railroad, may have some development along the shoreline and may have undergone some impoundment or diversion in the past.

The *Arizona Strip District Draft Resource Management Plan/Environmental Impact Statement* (USDI, BLM 1989) and the *Virgin River Habitat Management Plan* (USDI, BLM 1984) identified the Virgin River as possessing remarkable scenic, geologic, fisheries, and wildlife values. Each of the aforementioned documents stipulates special management considerations be applied; none of the recommendations have been implemented as of this date.

## **RIGHTS-OF-WAY**

### **Right-of-Way Development**

BLM authorizes rights-of-way on public lands for a variety of uses. Uses on public land include roads, electrical transmission lines, telephone lines, sewer lines, culinary water lines, natural gas pipelines, communication sites, electrical power substations and power distribution lines. Material site rights-of-way are authorized to the Nevada Department of Transportation, providing sand and gravel for road maintenance and construction. Right-of-way authorizations are processed on a case-by-case basis as proposals for use are received. The authorization process involves the analysis of potential impacts to the environment as a result of the proposed action and the preparation of an environmental assessment (EA) or EIS if appropriate; resource protection stipulations are developed prior to the approval of such use.

### **Right-of-Way Corridors**

The only BLM-designated corridors within the planning area are located in Nye County (see Map 2-7). The ROD for the *Esmeralda-Southern Nye RMP/EIS, Planning Area B* designated 61 miles of utility corridors on public land, including existing facilities and/or rights-of-way. The designations consist of a corridor running north-south which encompasses a right-of-way held by Western Area Power Administration (WAPA) for a 750 KV direct current line and corridors running north-south along U.S. 95, containing existing facilities not included in the WAPA right-of-way corridor.

In Clark County, two designated utility corridors are reserved for the United States Government, as the result of special legislation (see Map 2-7). Public Law 101-67, the Apex legislation, reserved numerous corridors within the sale area, including existing powerline rights-of-way, ranging from 300 to 1800 feet in width, for a total length of approximately 32 miles. The Aerojet legislation established a corridor in Coyote Springs Valley, with a total length of 4 miles.



**Table 3-31. Wilderness Study Areas.**

<u>Wilderness Study Areas</u>	<u>Acreage</u>
Arrow Canyon Range	32,853
Muddy Mountains	96,170
Mt. Stirling	69,650
La Madre Mountains	61,630
Pine Creek	24,618
No. McCullough Mtns.	47,166
So. McCullough Mtns.	56,623
Resting Spring	3,850
Fish & Wildlife 1, 2, 3	50,334
Lime Canyon	34,680
Million Hills	21,296
Garrett Buttes	11,835
Quail Springs	12,145
El Dorado	12,290
Ireteba	14,994
Jumbo Springs	3,466
Nellis ABC	5,718
Sunrise Mountain	10,240
Virgin Mountain	6,560
<b>Total</b>	<b>576,118</b>

(Source: BLM, Las Vegas District Office files, 1991.)

## WILDERNESS

Under Section 603 of FLPMA (1976), BLM was directed to inventory and study the public lands suitable for inclusion in the National Wilderness Preservation System (NWPS). Nineteen Wilderness Study Areas (WSAs) were identified in the Stateline Resource Area (see Map 2-8); these are listed in Table 3-31, which includes 724 acres of U.S. Forest Service lands. These WSAs were studied under the following environmental impact statements: *Esmeralda-Southern Nye* (1986), *Clark County Final Wilderness* (1987), and the *Nevada Contiguous Lands* (1990).

**Arrow Canyon Range WSA** is a narrow, north-south range, typical of the Basin and Range Province. The 32,853 acre WSA is 35 miles northeast of Las Vegas. Roughly triangular in shape, it measures 4 to 12 miles north-south and 2 to 6 miles east-west. The WSA includes a ridgeline of limestone peaks and canyons, a central valley cut by numerous washes, and a series of ridges on the eastern end cut by deep washes, including the near-vertical sides of Arrow Canyon. The entire WSA is vegetated with desert plants of the Creosote Bush Community. The WSA was not recommended for wilderness designation in the Clark Wilderness EIS.

**Muddy Mountains WSA** is located in the south end of the Muddy Mountain Range, 20 miles northeast of Las Vegas. The 96,170 acre WSA is roughly rectangular in shape, 5 to 17 miles east-west and 6 to 13 miles north-south. Elevations range from 2,000 to 5,400 feet. Four major landform regions are contained in the WSA. The



Muddy Mountains form the core area of limestone peaks and canyons, including two interior valleys where outcrops of orange, red and cream Aztec Sandstone are exposed. The northern bajada slopes gradually northward from the Muddy Mountain core. The Gale Hills, to the west and south, are low red hills of deposited sediments characterized by rugged erosional features and three major basins. Bitter Spring Valley and White Basin are part of a large bajada bisected by the sharply upthrust Bitter Ridge. Various desert plant communities are found in the WSA. Tree cover is limited to large desert willows in several of the larger drainages. No springs occur in the WSA, but water is found much of the year in ephemeral catchments in the Aztec Sandstone and Gale Hills conglomerate. Of the WSA's 96,170 acres, 36,850 acres are recommended for wilderness designation.

**Mount Stirling WSA** encompasses the northeast portion of the Spring Mountains, 45 miles west of Las Vegas. It contains 69,650 acres in a roughly triangular shape, 10 miles north-south and 4 to 10 miles east-west. Elevations range from 4,800 to 9,618 feet. A northwest-southeast trending ridge, steeper on the southwest face and heavily dissected into peaks and canyons, extends the length of the WSA. A central valley, one mile wide, separates the ridge from a second peak complex centered around Wheeler Peak. Several miles of bajada are included on the north boundary. The WSA is made up of limestones, dolomite and quartzite. With the exception of fire scars, the WSA is heavily vegetated with pinyon and junipers throughout, with ponderosa pine and white fir at high elevations. Of the WSA's 69,650 acres, 40,275 acres are recommended for wilderness designation.

**La Madre Mountains WSA** is within the Red Rock Canyon NCA, 15 miles west of Las Vegas. Located in the Spring Mountain Range, the WSA is contiguous to the Pine Creek WSA on the south and the Toiyabe National Forest, Mt. Charleston back country Area on the north.

The WSA contains 61,630 acres, including 724 acres of National Forest. It is 2 to 8 miles north-south and 14 miles east-west with elevations ranging from 3,600 to 9,400 feet. The eastern half of the WSA contains the southwest-northeast trending La Madre Ridgeline. The angular peaks of this ridgeline have nearly vertical southeast faces and gradually sloping back sides. The western half of the WSA consists of ridges and drainage radiating from the much higher Mt. Charleston Ridgeline to the north in the National Forest.

La Madre Mountains WSA is composed of limestones and dolomite, with the exception of several outcroppings of rugged Red Aztec Sandstone on the Las Vegas side of the La Madre Mountains. Pinion and junipers are found throughout the WSA, scattered on southeast faces, at lower elevations, and in dense stands above 6,000 feet. Pockets of white fir and ponderosa pine occur at high elevations. Several fire scars affect the unit's vegetation, including a 1982 fire which deforested most of the Lovell Canyon Basin. Of the WSA's 61,630 acres, 34,010 acres have been recommended for wilderness designation.

**Pine Creek WSA** is within the Red Rock Canyon NCA, located 15 miles west of Las Vegas. The WSA contains 24,618 acres and is approximately 11 miles north-south and 4 miles east-west. It straddles a north-south ridge of the Spring Mountains. Elevations range from 4,400 to 7,000 feet. There are two distinct land forms in the WSA. The east-facing sandstone escarpment consists of 2,000 foot nearly vertical cliffs, cut by numerous deep narrow canyons. Ponderosa pine grows in the canyons and in isolated pockets of soil on top of the escarpment. Water is found most of the year in natural catchments in the sandstone and flowing from springs in the canyons. The limestone overthrust forms a rugged ridgeline above and west of the sandstone. Rounded hills and drainage fall gradually to the west from the ridgeline. Pinion pine and juniper are the primary plant community in this unit. Of the WSA's 24,618 acres, 22,652 acres have been recommended for wilderness designation.

**North McCullough Mountains WSA** contains the north half of the McCullough Mountain Range, 15 miles south of Las Vegas. The 47,166 acre WSA is rectangular; 10 miles north-south and 8 miles east-west. Elevations range from 2,000 to 5,092 feet. The massive, rounded to flat-topped volcanic peaks have a steep, east-facing escarpment and a gradual western slope. Blocky, black basalt flows are exposed on the ridges, peaks and western slopes. The east escarpment consists of formations of reddish-brown andesite breccia. The WSA contains some valley land on the western fringe and a broad two-mile-wide central valley separating the main



The WSA contains some valley land on the western fringe and a broad two-mile-wide central valley separating the main ridgeline from the rugged Sutor Hills. No springs occur in the WSA. Desert plants of the creosote bush community, including barrel cactus, scattered Joshua trees and several species of cholla and prickly pear dominate the WSA. None of the WSA's 47,166 acres have been recommended for wilderness designation.

**South McCullough Mountains WSA** is a long, narrow, primarily wooded range located 13 miles west of Searchlight, Nevada. The WSA is 14 miles north-south and 3 to 9 miles east-west, totaling 56,623 acres. Elevations range from 2,500 to 7,026 feet. The mountains of the range are rounded and roughly symmetrical, with both sides of the ridgeline dropping off gradually to numerous valleys and foothills. The boundaries also encompass sloping bajadas on the west and east sides. Most of the WSA is composed of metamorphosed Precambrian rock with some volcanic flows on the north end. Vegetation varies from desert shrubs, Joshua trees, yuccas and cacti at low elevations to dense piñon-juniper stands above 5,000 feet. Of the WSA's 56,623 acres, 19,558 acres are recommended for wilderness designation.

**Resting Spring WSA** is located 15 miles west of Pahrump along the California/Nevada border in Nye County. The WSA contains 3,850 acres and is contiguous to the California Desert Conservation Area's Resting Springs WSA which totals 89,772 acres in California. The WSA in Nevada contains the foothills and lower drainages of the narrow, north-south trending Resting Spring Range located to the south in California. Elevations within Nevada range from 2,400 feet on the north to 3,900 near the California border. Most of the WSA is composed of sedimentary rocks, primarily limestone. Volcanic ash beds occur in small areas near the boundaries. Vegetation with the WSA is typical of the arid portions of the Mohave Desert Biome with creosote bush, blackbrush, shadscale and other low desert shrubs and cacti. Little to no recreational activity occurs in the WSA because of a lack of interesting features and distance from metropolitan centers. None of the WSA's 3,850 acres are recommended for wilderness designation.

**Fish and Wildlife No. 1, 2, 3 WSAs** are located in northern Clark and southern Lincoln counties, approximately 35 miles north of Las Vegas, Nevada. The WSAs are a long, narrow configuration running north-south, approximately 45 miles long and about 3 miles wide. The WSAs total 50,334 acres and are divided into three units defined by heavily traveled roads. Most of the WSAs are relatively flat, gently sloping bajadas extending from the base of mountains to the west to U.S. 95 in the east. The only mountain range, the Las Vegas Range, occurs in the central portion of Fish and Wildlife No. 2. These are low mountains, elevations ranging from 2,000 to 4,560 feet. Low rolling hills, narrow washes, and the Las Vegas Range, provide the only topographic diversity in the WSAs. Vegetation is typical of the Mohave Desert biome with yucca, cacti, and Joshua trees; cat-claw acacia is found along the narrow washes. Approximately 60 recreational visits per year occur in the WSAs. None of the WSAs' 50,334 acres are recommended for wilderness designation.

**Lime Canyon WSA**, totaling 34,680 acres, is located northeast of Las Vegas, Nevada, in the Overton Arm region, south of Mesquite and east of Lake Mead. The WSA has a generally elongated shape, oriented north-south and approximately 13 miles long and between 3 and 7 miles wide. Lime Canyon consists of small, rugged drainages, gently rolling hills, two paralleling ridges, a narrow canyon and several wide, sandy washes. The area offers outstanding scenic vistas of Lake Mead to the south and west and the Muddy Mountains beyond the lake. It also has colorful rock strata and dynamic geologic formations. Faulting and erosion have exposed a variety of sediment deposits throughout the WSA. The WSA contains noncrucial desert tortoise habitat along the western boundary. Vegetation is typical of Mohave Desert type with some interspersed areas of Joshua trees. Limited recreational use occurs in the WSA and consists primarily of hikers and upland bird hunters. Greater use is anticipated in the WSA because of the recent designation of a the Gold Butte Back Country Byway along the eastern boundary of the WSA. Of the WSA's 34,680 acres, 13,895 acres are recommended for wilderness designation.



**Million Hills WSA** is located in northeastern Clark County, approximately 45 miles east of Las Vegas, Nevada, across Lake Mead in an area known as Gold Butte. The WSA is roughly rectangular, measuring approximately 10 miles in length and slightly more than 5 miles at its widest point; the area comprises 21,296 acres. Million Hills consists of a minor relief outwash plain at its north end that grades to gently rolling hills leading southward into the center of the unit. A low, eastward sloping ridge with a prominent peak occupies the west central position of the area. Behind the main ridge to the east lies a north-south trending ridge of lower relief hills. The area has been active geologically, showing faulting, erosion of bedrock, foliation and light banding. Numerous canyons, drainages and washes dissect the unit, most of which drain into Lake Mead. Elevations range from 1,883 feet to 4,183 feet. Vegetation consists of low desert shrubs, creosote, yucca and small areas of pinyon pine and juniper at higher elevations. Limited recreation activity occurs in the WSA. None of the WSA's 21,296 acres are recommended for wilderness designation.

**Garrett Buttes WSA** is located in eastern Clark County approximately 45 miles east of Las Vegas, Nevada. The study area contains approximately 11,835 acres of public land. The WSA consists of a gently sloping outwash plain on the west, two rounded buttes to the east, and a small ridge running the length of the southern boundary. Elevations range from 1,195 to 3,920 feet. Vegetation is sparse, low desert shrub typical of the southern Mohave type. Extremely limited recreational activity occurs because of the area's inaccessibility. None of the WSA's 11,835 acres are recommended for wilderness designation.

**Quail Springs WSA** is located in northwestern Clark County, approximately 10 miles northwest of Las Vegas, Nevada. The study area includes 12,145 acres of public land. The boundary is a combination of roads, a shared boundary with the Desert National Wildlife Range, the corporate boundary for the City of Las Vegas, a common boundary with the Las Vegas Band of Paiutes Reservation, and an old abandoned railroad grade. The WSA is primarily flat, with gentle sloping bajadas on the southern end. A major wash runs through the southern part of the study area. There are no major geologic formations in the unit and vegetation consists of low desert shrubs and grasses. None of the WSA's 12,145 acres are recommended for wilderness designation.

**El Dorado WSA** is located in the southeastern portion of Clark County, Nevada, approximately one hour's drive from Las Vegas. The study area contains 12,290 acres of public land, surrounding 120 acres of private land in a roughly rectangular configuration 5 miles long and 4 miles wide. The WSA contains rugged mountainous terrain of volcanic and metamorphic rocks along the western edge of the Eldorado Mountains. A prominent north-south ridgeline, cut by numerous wide washes and canyons, dominates the landscape. Desert shrubs and cacti cover the foothills, while small pockets of mountain brush species (scrub oak) and stands of cholla occur in the canyons. Elevations range from 2,000 feet on the eastern side of the WSA to 3,800 feet at the top of Nelson Peak. Some limited hiking occurs in the WSA; however, overall recreational activity is limited because of user lack of knowledge. None of the WSA's 12,290 acres are recommended for wilderness designation.

**Ireteba Peaks WSA** is located south of the old mining town of Nelson in Clark County, Nevada, approximately one hour's drive south of Las Vegas. The study area contains approximately 14,994 acres of Public Land in a rectangular configuration nearly 7.5 miles long and 3.5 miles wide. The study area encloses a major north-south knife-edge ridge that is primarily volcanic rocks, intrusives, breccias, and metamorphic rocks, granites and schists. Deeply incised rocky draws on the east side drain into the Colorado River and the Lake Mead National Recreation Area. The western slope drops quickly and drains into the El Dorado Valley. Elevations range from about 2,000 feet on the east side to 5,060 feet at Ireteba Peak. Vegetation is scattered and sparse, consisting mainly of low-growing desert shrubs throughout most of the study area to a few pinyon and juniper at the higher elevation. Extremely limited recreational activity occurs in the study area. None of the WSA's 14,994 acres are recommended for wilderness designation.

**Jumbo Springs WSA** is located in eastern Clark County, Nevada, near Lake Mead National Recreation Area, approximately 50 miles east of Las Vegas and encompasses approximately 3,466 acres of public land. The WSA is approximately 3.5 miles long in a north-south direction and 1.5 miles wide in a east-west direction. The WSA



consists of the upper canyons of three major washes which drain from the edge of a plateau (Jumbo Basin) east toward Lake Mead. The canyons are rugged. Elevations range from 2,700 feet along the southeastern boundary to the 4,700 foot ridge on the northern end. Vegetation consists of low mountain brush species. None of the WSA's 3,466 acres are recommended for wilderness designation.

**Nellis ABC WSAs** are located at the northern end of the Las Vegas Valley and is subdivided into three small sub-units totaling 5,718 acres of public land. The WSA consists of a flat bajada sloping gently south from the Sheep Range. It is highly eroded, creating a deeply rutted, but, uniform terrain. Vegetation consists of creosote and other desert shrubs, with some yucca appearing along the northern boundary. None of the WSA's 5,718 acres are recommended for wilderness designation.

**Sunrise Mountain ISA**, located on the eastern edge of Las Vegas, Nevada and consists of approximately 10,240 acres of Public Land. The ISA consists of gently sloping bajadas to the east that rise to high rugged mountains to the west. The vegetation is desert shrubs and grasses. The area has a paved highway, numerous roads and vehicle trails, communication sites, and various other structures inside the ISA's boundary. A significant amount of recreational activity occurs in the area and includes, OHV touring, shooting, hiking, camping, and sightseeing. None of the WSA's 10,240 acres are recommended for wilderness designation.

**Virgin Mountain ISA** consists of 6,560 acres of public land located approximately 85 miles northeast of Las Vegas, south of Mesquite, Nevada. This range is of particular scientific interest because it encompasses features representative of three North American desert life zones. Within the boundaries of the Natural Area is an interface zone where the southern Great Basin, eastern Mohave, and northern Sonoran deserts meet. The Virgin Mountains are a widely-recognized natural laboratory for researchers seeking to better understand this complex geographic zone. A relict coniferous forest containing white fir, the only stand of Douglas fir in Clark County, ponderosa pine, the only stand of Arizona cypress in Nevada, aspen, and several plant species considered to be at the outside edges of their ranges is found immediately downslope of the north and south peaks. Pinyon-Juniper and oak scrub communities provide the vegetative understory which blankets the rugged limestone slopes and ridges. The dense vegetation, in conjunction with the steep gradients of the terrain, limit access roads to a four-wheel-drive road which approaches from the northeast and one from south. Recreational activities occurring in the ISA include hiking, camping, hunting, and nature study. None of the WSA's 6,560 acres are recommended for wilderness designation.

#### **Areas Under FLPMA Section 202 Wilderness Review**

**Logandale Section 202 Unit** is located in eastern Clark County, Nevada near the community of Logandale, approximately 1 hour east of Las Vegas. The study units total 20,299 acres of public lands, contained in seven subunits (six subunits totaling 6,400 acres do not meet the minimum acreage or wilderness characteristics necessary to justify study for wilderness designation, and one unit totaling 6,088 acres meets or exceeds the minimum acreage and wilderness characteristics necessary to justify study for wilderness designation, and 14,211 acres of an original Logandale Unit). The first six units do not meet the minimum size requirements for wilderness designation, have many developments and roads, and are burdened with withdrawals for additions to either Lake Mead National Recreation Area or to the Valley of Fire State Park. Parcel G is characterized by sparsely vegetated hills and cliffs along the eastern edge, a central valley and spectacular reddish sandstone formations in the western and southern portions. The southeast portion of the area is dominated by Overton Mesa, a large, upraised mesa.



## MINERAL RESOURCES

Federally owned minerals in the public domain fall into one of the following categories (as defined by the Supplemental Program Guidance - BLM Manual 1620), depending on the kind of mineral:

- A. Locatable Minerals (disposal is nondiscretionary)
  - 1. Uncommon varieties of sand, gravel, stone, pumice, pumicite, cinders, and exceptional clay.
  - 2. All "valuable mineral deposits" are locatable under the General Mining Law of 1872, except those specifically excluded below.
- B. Leasable Minerals (disposal is discretionary)
  - 1. Fluid Minerals
    - a. Geothermal resources and associated by-products.
    - b. Oil and Gas
    - c. Oil shale, native asphalt, solid and semi-solid bitumen, and bituminous rock, including oil impregnated rock or sands from which oil is recoverable only by special treatment after the deposit is mined or quarried.
  - 2. Non-energy Minerals
    - a. All minerals on acquired lands, except saleable minerals.
    - b. All minerals on the Outer Continental Shelf:
    - c. Coal and phosphate.
    - d. Chlorides, sulfates, carbonates, borates, silicates, and nitrates of sodium and potassium.
    - e. Sulphur in the states of Louisiana and New Mexico.
- C. Saleable Minerals (disposal is discretionary)
  - 1. Petrified wood and common varieties of sand, gravel, stone, pumice, pumicite, cinders, and clay.
  - 2. All minerals not defined as locatable or leasable.

Metallic mineral commodities currently being produced or processed in the planning area are gold and silver. Other metallic minerals known to occur include cobalt copper, lead, manganese, mercury, nickel, palladium, platinum, thorium, tungsten, uranium, vanadium, and zinc.

Nonmetallic commodities under production or processing in SRA are bentonite, borate, clay, gypsum, limestone, dolomite, silica sand, gravel stone, and turquoise. Other nonmetallic minerals known to occur include alum, alunite, barite, beryl, feldspar, glauberite, magnesite, marble, mica, nitrate, perlite, quartz, salt, and vermiculite.

Portions of southern Nevada are classified as prospectively valuable for deposits of oil, gas, sodium, and potassium. Occurrences of coal, phosphate, and oil shale are not known in the SRA. Areas considered prospectively valuable for geothermal resources are found within the Lake Mead National Recreation Area, considered part of the planning area for minerals management. Table 3-32 shows mineral production from the SRA between 1978 and 1989.

### Fluid Minerals

The *Minerals Leasing Act* (1920) as amended, the *Acquired Lands Act* (1947), the *Geothermal Steam Act* (1970), and 43 CFR 3100 thru 3599 provide the legal and regulatory framework for issuance and management of mineral leases. These regulations apply where public interest exists for the development of oil, gas, geothermal, coal, and nonenergy leasable mineral resources. Stipulations are attached to leases and permits in order to assure protection of nonmineral resources that are susceptible to impacts resulting from the exploration and development of leaseable mineral resources. Lands within the Stateline Resource Area are generally open to entry under the leasable mineral laws unless specifically closed or withdrawn.



**Table 3-32. Mineral production from the planning area (1978-1989).**

COMMODITY	QUANTITY	VALUE
Aggregate	84,300,000 tons	\$457,496,100
Clay	670,000 tons	38,535,720
Gold	100,000 oz.	39,976,800
Gypsum	1,130,000 tons	8,048,990
Limestone	3,450,000 tons	160,935,600
Pumice	8,400,000 tons	16,027,200
Silica Sand	5,600,000 tons	69,490,400
<b>TOTAL</b>		<b>\$790,510,810</b>

(Source: Nevada Bureau of Mines and Geology, 1978-1989).

Oil and Gas - The first exploration well known to have been drilled in Clark County was completed in 1929 near Arden, 15 miles southwest of Las Vegas (Garside et al 1988). An area near Mesquite in the northeastern part of the county was touted as a prospective oil area, but no wells are known to have been drilled on the Nevada side of the Utah-Nevada border as a result of the promotion.

Some sporadic drilling was done in the 1940s, but the more serious efforts began in 1950 when exploration throughout Nevada increased significantly. Although a number of wells have reported oil shows, the lack of a discovery and the general decrease in Nevada drilling in the late 1960s and early 1970s resulted in few wells being drilled in Clark County until the early 1980s. Some of these recent wells were drilled to test the possibility of "overthrust belt" oil fields like those in western Wyoming and northeastern Utah.

The deepest well drilled in Nevada to date is in Clark County on Mormon Mesa. In 1980, the Virgin River U.S.A. No. 1-A was drilled by Mobil Oil Corporation in SE $\frac{1}{4}$ SW $\frac{1}{4}$ , Sec. 9, T. 15 S., R. 68 E., to a depth of 19,562 feet. It was an unsuccessful overthrust test. Map 3-16 shows those areas within the SRA classified as having high, moderate, and low potential for the development of oil and gas. To date, 61 leases, totaling 77,956.26 acres, have been issued for oil and gas. Seventy permits for the drilling of oil and gas wells have been issued and 65 wells drilled. Geophysical exploration permits, totaling 33, have been issued in the planning area. During the past 10 years, there has been no oil and gas production within the Stateline Resource Area.

Geothermal Resources - Based upon available data, southern Nevada contains no known favorable locations for the development of geothermal energy. A water temperature of 145 degrees F., the hottest water in Clark County, occurs at Black Canyon Springs near Hoover Dam. Commercial development requires temperatures of at least 194 degrees F. Higher temperatures of not less than 350 degrees F. are needed for direct application uses (i.e. power generation). The low temperatures of waters in southern Nevada precludes their use as a geothermal energy source except for small scale uses (i.e., space heating, swimming pools, and spas).

Map 3-16 indicates those areas within the SRA classified as having high, moderate, and low potential for the development of geothermal resources. There are no existing geothermal leases within the planning area, and no geothermal resources production has occurred within the past 10 years.



## **Non-Energy Leasable Minerals**

The *Mineral Leasing Act* (1920), the *Acquired Lands Act* (1947), the *Geothermal Steam Act* (1970), and 43 CFR 3100 thru 3599 provide the legal and regulatory framework for issuance and management of mineral leases. These regulations apply where public interest exists for the development of oil, gas, geothermal, coal, and non-energy leasable mineral resources. Stipulations are attached to leases and permits in order to assure protection of nonmineral resources that are susceptible to impacts resulting from the exploration and development of leasable mineral resources. Lands within the Stateline Resource Area are generally open to entry under the leasable mineral laws unless specifically closed or withdrawn.

Map 3-17 displays those areas within SRA classified as having high, moderate, and low potential for the development of compounds of sodium and potassium. There are no existing leases for compounds of sodium and potassium within the Stateline Resource Area and no production of compounds of sodium and potassium has occurred within the past decade.

## **Saleable Minerals**

The *Materials Act* (1947), as amended, and 43 CFR 3600 thru 3622 provide for the regulation and disposal of mineral materials. Disposal is administered on a case-by-case basis.

Saleable minerals are sold at fair market values. All lands within the Stateline Resource Area, except those withdrawn to saleable mineral entry, are open to entry under the saleable mineral law. Free use permits are issued to Federal and state agencies, local communities, and nonprofit groups as the need arises. Map 3-18 shows those areas within SRA classified as having high, moderate, and low potential for the development of mineral materials.

## **Locatable Minerals**

Exploration for and development of locatable mineral resources is provided for by the *General Mining Law* of May 10, 1872, as amended. Federal regulations (43 CFR 3802 and 3809) provide protection to nonmineral resources, provide for reclamation of disturbed areas and for mineral exploration and development, while assuring that activities are conducted in a manner that prevents unnecessary or undue degradation. All lands within the Stateline Resource Area, except those withdrawn from mineral entry, are open to entry under the locatable minerals laws. Map 3-18 shows those areas within SRA classified as having high, moderate, and low potential for the development of locatable minerals.

Many mining districts in southern Nevada have yielded significant production in the past and some are currently producing large quantities of material. It is difficult to give a general description of these deposits because of their variety and number and the diversity of geological settings in the various districts. Deposits are therefore divided into two groups, metals and nonmetals. The metals are discussed by separate districts. The nonmetals are discussed by commodities because kindred deposits are not confined to districts.

Mining in southern Nevada began in 1857 with the discovery of lead ore at the Potosi mine, which later became the area's second largest producer of zinc (Hewett 1931). In 1892, the discovery of gold in the Keystone mine greatly stimulated activity in the Goodsprings district and southern Nevada. Subsequent development of metallic and nonmetallic deposits has continued to the present time, when nonmetallic mineral production in the area far exceeds metallic mineral production in both tonnage and value. Table 3-32 shows the production and value of metallic minerals in Clark County from 1978-1989. Between 1980-1990, a total of 120 mining plans of operations have been approved on public lands within the Stateline Resource Area. Mining notices totaling 416 were filed in the planning area during this same period (see Map 3-19).



## Mining Districts

The principal mining districts of the Stateline Resource Area are described below, with a brief overview of the history, production, and resources of each district.

Ash Meadows District - The Ash Meadows bentonite district has the largest clay production of any clay district in Nevada. Production began about 1918, with an estimated \$3 million worth of clay having been extracted during the first 50 years of the district (Kral 1951). Clays were used to filter and clarify mineral oils and as an absorbent. In the 1960s, interest in the bentonite deposits had dropped significantly, although major oil companies still retained mineral rights for portions of the district. In the early 1970s, Industrial Mineral Venture, Inc. (IMV) began to produce bentonite clays from the district. This operation continues clay production under new management as IMV/Florida.

Bare Mountain (Fluorine) District - The Bare Mountain Fluorine district is located in the extreme northern portion of the planning area and extends beyond the boundary of the SRA. Gold was discovered in 1905 and the early limits of the district was limited to the northern part of Bare Mountain. In the 1950s, the district was expanded to include the southern part of Bare Mountain (Kral 1951). This district is best known for its production of fluorspar. In the late 1970s, new production within the district shifted from fluorspar to gold when the Sterling Mine opened. Until this time, gold was known to occur within the district, but only limited production occurred. The Sterling Mine is the only active large-scale heap leach operation in the SRA.

Eldorado Canyon District - The Eldorado Canyon district, located in the Eldorado and Opal Mountains, is one of the oldest in Nevada. Mining began in the area in 1857, with the discovery of gold ore on the Honest John claim. Reports indicate that old arrastras and prospect pits, dating prior to the 1860s, were found in the area. Estimates of production between 1861 and 1906 totaled between \$2 and \$5 million (Ransome 1907). Significant production from the district ended in 1942 with the closure of the Techatticup Mine. Since that time, limited exploration and production has taken place in the district.

Goodsprings (Potosi, Yellow Pine) District - The Goodsprings (Potosi, Yellow Pine) district was the principal source of zinc in Nevada during World War I and II. Located in the Spring Mountains, the district was first described in 1856 by Nathaniel Jones, who was verifying Indian reports of a lead occurrence for the Mormon Church (Hewett 1931). The Potosi Mine was the first Nevada mine, with ores smelted by Jones in 1857; production has been intermittent since that date. Significant production in the district occurred from 1912 to about 1920 and at a reduced rate by steady pace until the 1950s. Today interest in the district continues with limited exploration and processing of tailings from the Keystone Mine by Durvada, Inc. Zinc, lead, copper, cobalt, silver, gold, and other minerals were extracted between 1856 and 1957, for an estimated value of \$31,000,000.

Searchlight District - The Searchlight district was discovered in 1897 and has a recorded production of over \$6 million. The district lies in the western Opal Mountains and has yielded gold, silver, copper, and lead. Since the early 1950s, interest in the district has been intermittent with some exploration and limited production at the older mines.

Other mining districts with lesser productions within the planning area include the Bare Mountain (Fluorine), Bunkerville (Copper King), Big Dune (Lee), Charleston, Crescent, Dike, Gass Peak, Gold Butte, Johnnie, Las Vegas, Newberry, Railroad Pass, and Sunset districts. Minerals extracted were alunite, copper, gold, lead, manganese, silver, and zinc, as well as minor amounts of other materials. Map 3-19 depicts the general locations of mineral activities conducted under the auspices of the 1872 *Mining Law* during the last 10 years in the SRA.



## Nonmetallic Mineral Deposits

Nonmetallic mineral production now exceeds metallics in both tonnage and value within the Stateline Resource Area. These commodities include alum, alunite, barite, bentonite and clay, borates, feldspar, fluorspar, glauconite, gypsum, limestone and dolomite, magnesite, marble, mica and beryl, nitrate, perlite, quartz, salt, silica, sand and gravel, stone, turquoise, and vermiculite. Bentonite, borates, feldspar, fluorspar, gypsum, limestone and dolomite, marble, mica and beryl, perlite, turquoise, salt, silica, stone, sand and gravel, and vermiculite are among the commodities which are currently or have been commercially extracted. Only those commodities with a commercial production history are detailed in the following.

Alunite - The Railroad Pass (Alunite) district is located approximately 5 miles east of Boulder City. The Alunite Mining Company was organized in 1908, but operations by the company ceased after a short period of activity. The area was considered as a possible source of potash and alumina during the two World Wars, but the grade and distribution of the alunited rock proved unfavorable for commercial exploitation.

The Quo Vadis Mining Company began operation in 1915 but has had only intermittent activity. Little production has been recorded for the district (Vanderburg 1937). Figures from the *Minerals Yearbook* of 1936 show production of 925 ounces of gold, 749 ounces of silver, and 1,832 pounds of lead, valued at \$33,035.

Bentonite - Several deposits of bentonitic type clay occur in Clark County but only a small amount of clay has been mined from them. Richfield Oil Company mined 2,960 tons of the clay in 1929, presumably from altered rocks near Las Vegas (Fulton and Smith 1932). Clay has been mined near the Wall Street mine in sec. 4, T. 26 S., R. 64 E. and trucked to Whitney, where it was used in making bricks. Bentonite has also been located in the vicinity of Overton, Moapa, and Searchlight. Some development has been done on these deposits and small quantities are occasionally mined. No recent exploration or development for bentonite are known from Clark County.

Borate - Borate deposits occur in White Basin in the central part of the Muddy Mountains in northeastern Clark County. A large group of patented mining claims, including the Anniversary Mine and the old workings of the American Borax Company, are located in the eastern part of White Basin.

Feldspar - Feldspar of commercial quality is abundant in the Virgin Mountains and in the ranges of the southern part of Clark County; these deposits have received slight attention due to inaccessibility and distance from markets. The only production reported is from a deposit located on the west slope of Crescent Peak with an estimated 1,000 tons of feldspar having been mined and shipped (Hewett et al., 1936).

Fluorspar - Fluorspar veins occur in the McCullough Range. Development work, consisting of a short adit and several open cuts, has explored the veins, but only a few tons of fluorspar have been shipped (Vanderburg 1937).

Gypsum - Extensive deposits of gypsum occur in the Virgin Mountains, in the Muddy Mountains southward to Frenchman Mountain and vicinity, and in the Spring Mountains west and southwest of Las Vegas (Longwell et al 1965). Five mines are currently producing gypsum from private and public lands within the SRA. Significant exploration for gypsum is also occurring.

Limestone and Dolomite - Deposits of carbonate rocks are widely distributed in all parts of southern Nevada with the exception of a wide belt west of the Colorado River south of Lake Mead. The carbonate rocks range in age from Early Cambrian to Tertiary. To date, the only deposits which have been extensively developed are the Devonian limestone at Apex (high calcium limestone) and the Mississippian dolomite at Sloan (dolomitic limestone).



Chemstar, Inc. owns and operates a limestone quarry and a crushing, and calcining plant at Apex, 19 miles northeast of Las Vegas and one mile northeast of the Georgia Pacific gypsum plant. Limestone and dolomite have been mined at Sloan since 1910, approximately 19 miles south of Las Vegas. Dolomite was not mined commercially before 1928, but since that time it has become the principal product. The principal markets for limestone and dolomite products have been the sugar beet, oil, and iron industries in southern California. The potential for the development of limestone and dolomitic deposits within the SRA is quite high. Production could be for lime or portland cement. Other development work includes the current construction of a portland cement plant near Logandale. The plant is anticipated to be producing cement within the next 2 years.

Marble - Marble has been quarried at the south end of the Las Vegas Range, 14 miles north of Las Vegas (Burchard 1914). The marble is derived from limestone of Mississippian Age, recrystallized during secondary dolomitization. According to Cornwall (1972), unsuccessful attempts have been made to quarry marble at Carrara Canyon, 7 miles southeast of Beatty.

Mica and Beryl - Deposits of mica and beryl occur in pegmatite dikes in the Virgin Mountains, 9 miles southeast of Bunkerville, in the South Virgin Mountains east and south of Gold Butte, in the Opal Mountains, and in the southern McCullough Range. Production of mica and beryl has been small, although a few shipments of mica were made from properties in the South Virgin Mountains at the turn of the century (Parker 1894); the principal property is the Santa Cruz mine.

Perlite - The perlite deposits that have been developed in southern Nevada are in the McCullough and Highland Spring Ranges in the southern part of the Spring Mountains (Cochran 1951). The majority of these deposits are interlayered with other volcanic rocks such as dacite and obsidian.

Quartz - Some optical quality quartz crystals occur in pegmatite dikes of the Gold Butte District. No production figures are available although a small amount of quartz was produced from mines in the region.

Salt - Large deposits of rock salt once cropped out in the Virgin River Valley in eastern Clark County. Except for several small domes near Salt Cove, all the outcrops were covered when Lake Mead was filled in the 1930s. Common salt was one of the earliest materials mined in Nevada. Prehistoric Indians are known to have mined rock salt, creating the remarkable "salt cave" with two large underground chambers observed by Harrington in 1926. The Virgin Valley salt was later mined by white settlers.

Silica - According to Longwell (et al 1965), the high purity silica raw materials of economic significance are the Eureka Quartzite, Supai Formation, Aztec Sandstone, Baseline Sandstone, and recent deposits of eolian sand. Although practically all of these materials have been exploited, only the Baseline Sandstone and eolian sand are currently used. Simplot Silica Products in Overton ships both crude and dry finished products that are utilized by the foundry, glass, and chemical industries.

Sand, sandstone, gravel, conglomerate, quartzite, and massive quartz that contain 95 percent  $\text{SiO}_2$  or better are the most commonly used high purity silica raw materials. Market specifications favor the present utilization of Clark County sands for glass melting, but a substantial tonnage is consumed by the West Coast foundry trade. The Eureka Quartzite may be considered a potential source for refractory and metallurgical use.

Stone, Sand, and Gravel - Deposits of stone, sand, and gravel for use as construction and building material have been developed throughout the planning area (Maps 3-20 and 3-21). The most significant development of sand and gravel deposits has occurred in the greater Las Vegas area to support the building boom which started about 1984. Production of sand and gravel from non-Title 23 sources in the SRA is in excess of 1.2 million cubic yards of material. Another significant development of sand and gravel has been by the Nevada Department of Transportation (NDOT) which currently maintains 181 material site rights-of-way.



Dimension stone has been quarried in the vicinity of the Red Bluff Mine and Rainbow Quarries since the late 1940s. Recent production at this site has been significant, with current operations being conducted by the Las Vegas Rock Shop. Dimension stone has also been produced from other quarries in the SRA but the Rainbow Quarries site is the only active area in the planning unit.

Turquoise - The Crescent district is in the extreme southern part of the McCullough Range about 12 miles west of Searchlight, Nevada. Turquoise was prehistorically mined in the this area by Indians. In 1894 the deposits were rediscovered and have been intermittently active since. A considerable amount of turquoise was produced, especially from 1894 to 1906, but recorded production figures are lacking. The turquoise is light to dark blue and has a dense texture. Vanderburg (1937) reports that in 1906 a single specimen was found in the Toltec mine that weighed 320 carats and was valued at \$2,600.

Vermiculite - A vermiculite mine is located in T. 19 S., R. 70 E., sec. 35, approximately one-half mile north of the Snowflake mica mine. Deposits occur as veins, stringers, pockets, and scattered flakes. The vermiculites are considered to have been formed by the alteration of biotite by action of hydrothermal solutions (Leighton 1954). Remains of a mill stand on the property, but no record of production or recent activity is available.

## **FIRE MANAGEMENT**

Fire management activities are conducted under an Initial Attack Management Level Areas system, which links the level of fire fighting response to the resource values contained within a specific geographic area (refer to Map 2-1). The designations developed for initial attack response help to distribute fire personnel and equipment to those areas of highest resource priority, in the most cost effective manner. Management objectives for the following Initial Attack Management Levels are as follows:

Suppress all wildfires at 500 acres or less 90 percent of the time.

Suppress all wildfires at 100 acres or less 90 percent of the time.

Suppress all wildfires at 10 acres or less 90 percent of the time.

Between 1978 and 1988, approximately 78,212 acres of BLM land burned within the Stateline Resource Area. Fires were concentrated in the Spring and Mormon Mountains, with 64 percent of all wildfires that burned more than 100 acres occurring in these ranges. A fire occurrence map is available at the Las Vegas District Office. Table 3-33 summarizes the 10 year fire history.

## **SOCIO-ECONOMIC VALUES**

Because of the manner in which data is organized and made available, the affected environment, for purposes of social and economic analysis, must necessarily be defined to include all of Clark and Nye Counties. Analysis of potential effects must also be inferred from county-wide data.

### **Population and Area**

Table 3-34 displays 1980 and 1990 decennial population benchmarks and population forecasts for the year 1995 for the two counties and the State. Clark County, with an estimated population of 741,459 in 1990, has 61.7 percent of the State's total population (1,201,833) and has been experiencing phenomenal growth. In the second quarter of 1990, the Nevada Employment Security Department reported an estimated 5,000 people moving into the area each month. Population density in Clark County, encompassing a land area of 7,910.7 square miles, is estimated at 93.7 persons per square mile. Clark County is, however, characterized by a highly



**Table 3-33. Summary of 10 year fire history.**

<u>Year</u>	<u>Number</u>	<u>BLM Acres</u>	<u>Other Acres</u>
1978	75	2481	6
1979	83	2221	40
1980	136	16,070	2563
1981	146	7651	197
1982	175	14,503	1
1983	117	4074	2204
1984	119	377	75
1985	138	668	256
1986	134	211	11
1987	159	7172	884
1988	<u>133</u>	<u>22,784</u>	<u>9350</u>
<b>Total</b>	<b>1,415</b>	<b>78,212</b>	<b>15,587</b>

(Source: BLM, Las Vegas District Office files 1991)

developed urban area within the Las Vegas Valley, where the majority of the population resides. The balance of the county is sparsely populated and is similar in character to the southern portion of Nye County, included in this study.

Nye County, the largest in the state, is rural and sparsely populated. With a total area of 18,147.2 square miles, population density for Nye County is about one person per square mile. The population for that southern portion of Nye County included within the Stateline Resource Area is estimated at 8,278 persons in 1990. This includes an estimated 7,425 persons who reside in Pahrump Township, a primarily residential community for people who commute to jobs in the Las Vegas Valley and to the Nevada Test Site at Mercury.

### **Income and Employment**

Tables 3-35 and 3-36 show 1989 earnings and employment by major industries for both counties. The service industries are the single most important employers and income producers for the two counties, with Federal and State Government providing the second largest source of income for Clark County and the third most important source for Nye County. The high incidence of mining in Nye County makes mineral production that county's second most important source of jobs and earnings. The predominance of service industries is explained primarily by gaming industry employment in Clark County. Civilian employment by private firms providing contractual services to the Nevada Test Site do, however, provide jobs and economic stability for Nye County residents. Annual per capita income figures for 1990 show Clark (\$18,508) and Nye (\$15,967) Counties to be below the average of \$18,989 for the state's 17 counties.

Unemployment rates reported by county for August, 1990 were 4.8 percent for Clark, and 4.3 percent for Nye. The Nevada State average was 4.5 percent at that time. Rates reported for August, 1991 show slightly increasing unemployment with 5.6 percent for Clark, 4.6 percent for Nye, and a Nevada State average of 5.1 percent. The number of persons employed increased by an estimated 9,700 persons in Clark County and 60 persons in Nye County during the same period. The slight increase in unemployment may therefore be seen to reflect the continuing expansion in the population and labor force.



**Table 3-34. Planning area population and projections.**

Location	Percent Change			1995 Forecast
	1980	1990	1980-1990	
Clark County	463,087	741,459	60.1	1,013,020
Nye County	9,048	17,781	96.5	20,400
State of Nevada	800,508	1,201,833	50.1	1,581,540

(Source: 1980 and 1990 U. S. Department of Commerce, Bureau of the Census; 1995 Preliminary Forecasts, Department of Administration, State of Nevada).

### **Social Setting, Attitudes, and Values**

An analysis of social attitudes, expectations, and lifestyles was conducted for the *Final Environmental Impact Statement, Proposed Public Land Withdrawal, Nellis Air Force Bombing Range* (USDI, BLM/USAF, 1981). Additional social-economic profiles have been prepared by BLM; from these sources it may be concluded that the majority of both urban and rural residents are pleased with their communities and lifestyles. Rural residents are, however, less tolerant of outside influence in their lives. Residents strongly value quality educational opportunities for their children, family life, friendship, personal honesty, and trust. In rural areas, personal independence, responsibility, and self-reliance are particularly prized virtues. Economic development, industrial growth, and community expansion are favored, while personal status and environmental concerns receive less emphasis. Positive community attributes include such factors as (1) a good place to raise a family; (2) recreational opportunities; (3) and the quality of the physical environment.

Air pollution and traffic congestion are perceived as negative influences by urban residents, while the lack of adequate hospital and medical care are the principal concerns of the rural area inhabitants. The Federal Government represents a significant presence in these two counties, as illustrated by land ownership data. Almost 96 percent of the land area in Clark County (approximately 4,951,655 acres) are under Federal ownership. Federal land ownership in Nye amounts to 8,560,733 acres or nearly 74 percent of the land within that county. The Nellis Air Force Base and Range and the Nevada Test Site represent the most visible presence of Federal Government in the two counties. Local resident interest and concern is also directed toward Federal management of the lands for mining, livestock grazing, wildlife and wild horse management, wilderness, land tenure, and utility corridors. Income and employment opportunities afforded by the military presence are generally perceived as favorable, even necessary. Concern about aircraft noise, sonic booms, range contamination from unexploded ordinances, radioactivity, seismicity, and potential range fires has been expressed by residents of the study area. A full discussion of these concerns may be found in the *Final Environmental Impact Statement, Proposed Public Land Withdrawal, Nellis Air Force Bombing Range* (USDI, BLM/USAF, 1981). Residents of Nye County and the rural areas of Clark County, express strong interest in mining, livestock grazing, wild horse management, and wilderness issues. Wildlife and land tenure, particularly lands available for community expansion and utility corridors have proven, in the past, to generate concern in both urban and rural areas throughout the counties.

### **Affected Sectors**

Livestock-oriented agriculture and mining are the major basic industries to be affected by management proposals. Future livestock grazing and mining activities will be affected by constraints and prescriptions to



**Table 3-35. Clark and Nye Counties, 1989: earnings by major industries (\$1,000).\***

Industry	Clark	Percent	Nye	Percent
Agriculture	5,212	0.1	1,837	0.5
Mining	24,345	0.3	76,843	18.9
Construction	1,041,313	11.2	19,624	4.8
Manufacturing	280,129	3.0	1,739	0.4
Wholesale Trade	366,285	3.9	1,120	0.3
Retail Trade	961,991	10.4	10,491	2.6
Services	4,202,918	45.3	252,395	62.2
Government	1,283,728	13.8	26,215	6.5
Other	1,118,331	12.0	15,522	3.8
<b>TOTAL</b>	<b>9,284,252</b>	<b>100.0</b>	<b>405,786</b>	<b>100.0</b>

\*Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principle component of total income which is further comprised of dividends, interest, rent and transfer payments, less personal contributions of social insurance.

(Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Information System, April 1991).

protect wildlife, principally the desert tortoise; land disposal proposals; and the necessity to mediate the conflict between the need for inexpensive and accessible sources of sand and gravel for the construction industry and the encroachment upon those sources by the rapidly expanding development of housing and light industry. Other affected sectors would include recreational activities on the public lands and the removal of forest products.

#### Agriculture

Agricultural production in the planning area consists of cattle, sheep, alfalfa, hay, and cotton; livestock production predominates. Cash receipts from marketings in 1989 totaled \$18.9 million in Clark County, with \$17.6 million from livestock and livestock products. Total farm labor and proprietors income, for Clark County, is estimated at \$5.2 million. Las Vegas District Office, BLM, estimates gross income from livestock operations on public lands in the Stateline Resource Area to be no more than \$600,000. Nye County cash receipts totaled \$5.0 million in 1989 with \$3.0 million from livestock and \$2.0 million from crops. Farm labor and proprietor's income totaled approximately \$1.8 million. In terms of the regional economy, agricultural production in neither Clark nor Nye Counties can be considered significant. Agriculture accounts for only about 0.1 percent of total employment and income in Clark County and 1.5 percent of employment, together with 0.5 percent of income in Nye County. Agriculture within the planning area contributes little indirect income to either Clark or Nye Counties because most farm inputs are purchased outside of the counties, in St. George, Utah, or Bishop,



**Table 3-36. Clark and Nye Counties, 1989: employment by major industries.**

Industry	Clark	Percent	Nye	Percent
Agriculture	389	0.1	195	1.5
Mining	421	0.1	1,909	14.7
Construction	35,128	8.7	581	4.4
Manufacturing	10,538	2.6	130	1.0
Wholesale Trade	12,544	3.1	37	0.3
Retail Trade	64,786	16.0	805	6.2
Services	182,315	45.0	7,571	58.3
Government	48,570	12.0	1,111	8.6
Other	50,393	12.4	653	5.0
<b>TOTAL</b>	<b>405,084</b>	<b>100.0</b>	<b>12,992</b>	<b>100.0</b>

(Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Information System, April 1991).

California. Though of little or no economic significance, the viability and success of the industry remains tied to the public lands. Livestock have been using an average of 22,600 AUMs of public land forage in the Stateline Resource Area. As a result of transactions attendant to the Clark County Habitat Conservation Plan, the total amount of AUMs available has been reduced to 16,601. Of the 50 grazing operators in the area, 40 are identified as 100 percent dependent on public lands, with eight of the larger operations considered to be 95 percent dependent, one approximately 50 percent dependent, and one only 10 percent dependent on public lands forage.

Only 20 of the 55 grazing allotments are actively grazed, with all but three water based properties. Due to the broad ranging variability of operations in the area, the seasonality of forage, and the high dependency upon ephemeral range, typical ranch budgets cannot be developed. Net ranch income per AUM is estimated at a low \$4. Historically, the economic benefits derived by area ranchers from the use of public range have exceeded the fees they are charged. This imbalance, or "consumer surplus," has meant that ranchers are willing to pay extra for the opportunity to use public lands, thereby causing the grazing permit to acquire a market value (Vale, 1979; Nelson and Workman, 1971). The permits can be bought or sold in the market place or used as collateral for loans (Corbett, 1978). Although not officially recognized as real property, BLM permits have nonetheless become an integral element in the capital and credit structure of area ranchers. Currently, the market value of Federal AUMs ranges from \$25 to \$60; the market value of an AUM is usually lower in southern Nevada because of lower range productivity. Assuming an average market value of \$25 per AUM, BLM grazing privileges contribute \$719,450 to the wealth of area ranchers.



## Mining

Mining activities are of much greater significance to the Nye County economy, employing 1,909 persons in 1989, or 14.7 percent of total employment. In Clark County only 421 jobs or 0.1 percent of total employment were provided. Mining represents the second largest income producing industry in Nye County, providing \$76,843,000 in personal income or 18.9 percent of total county earnings. For Clark County, mining produced \$24,345,000 in income, which represents only 0.3 percent of total County personal income. However, BLM geologists estimate that 95 percent of the mining activity from BLM lands in the two counties occurs in that portion of Nye County outside of the Stateline Resource Area. Little production has occurred on BLM lands in Clark County during the past 30 years, with the exception of sand, gravel, and silt harvesting. All other production comes from patented mining claims. Assessed valuation for net proceeds of mines for 1988-1989 amounted to \$98 million in Nye County and only \$3.6 million in Clark County.

## Lands

Potential changes in the proportionality between public and private lands could affect both the tax base and BLM payments to the counties in lieu of property taxes. Assessed valuation for Clark and Nye Counties in the fiscal year 1988-89 amounted to \$9,082,317,493 and \$320,737,641 with tax rates per \$100 of assessed valuation at 2.0022 and 1.6182 respectively. BLM payments in lieu of property taxes for fiscal year 1989 amounted to \$998,230 for Clark County and \$472,000 for Nye County.

Corridors - The designation of corridors will enable more efficient planning of future energy, communication, and transportation facilities. The lack of designated corridors sustains high planning costs to utility companies and results in longer processing time for right-of-way applications.

## Recreation

Expenditures for recreation in the planning area contribute to the regional economy through the purchase of lodging, services, equipment, fuel, and food. Public land resources that are associated with recreation and affected by this plan include wildlife, wild horses and burros, wilderness, lands, and riparian areas. Some wildlife population adjustments may be expected as a result of alteration of habitat condition or changes in the amount of vegetation available for wildlife. Adjustments in wildlife populations will influence the number of hunter days, thereby affecting changes in expenditures, income, and employment.

Formal OHV events on the public lands provide substantial economic benefit to the local economy. Las Vegas District Office, BLM, estimates gross expenditures of \$23.1 million from the High Desert Racing Association event alone. This includes \$49.9 million from the Nissan 400, \$6.2 million from the Nevada 500, and \$7 million from the Gold Coast 300. Other events, including motorcycle racing and radio-controlled aircraft activities, produce additional expenditures in the local area amount to millions of dollars more. While all public lands recreation activities do contribute in some measure to the local economy, the associated expenditures are considered to represent less than 5 percent of any sector of the regional income and employment.

## Forest Products

Forest products currently harvested from the public lands in the RMP area provide an annual average of \$150.00 to BLM in permit sales. Total retail value of these products is estimated at \$1,250. Permit sales of desert vegetation amount to over \$2,000 per year.



## **CHAPTER 4**

### **ENVIRONMENTAL CONSEQUENCES**







## **CHAPTER 4**

### **ENVIRONMENTAL CONSEQUENCES**

#### **INTRODUCTION**

This chapter analyzes the anticipated physical, biological, social, and economic consequences of implementing any of the draft alternatives discussed in Chapter 2. Guidelines and assumptions for analysis are identified. Tables S-1 and S-2 display a summary and comparison of the impacts of the five alternatives.

The discussion of the environmental consequences is in proportion to the significance of the anticipated impacts. If a resource or resource use is not addressed, it was determined that impacts would not occur or would be insignificant. Mitigation measures designed to avoid or reduce the significance of impacts have been incorporated into the management directions contained in the various alternatives.

#### **ANALYSIS GUIDELINES**

The baseline for comparing impacts is the No Action Alternative, which represents a continuation of the existing management situation. Impacts expected to occur by the year 2012, if no changes occur in the current management guidelines, are identified for the No Action Alternative. The impacts associated with the implementation of the other draft alternatives are compared to this baseline.

The analysis of environmental consequences includes identification and discussion of both long-term and short-term impacts, direct and indirect impacts, and beneficial and adverse impacts. Cumulative impacts are identified at the end of the discussion for each alternative.

#### **ASSUMPTIONS FOR ANALYSIS**

Impacts were analyzed for each of the following resources or management programs: air, soils, water, vegetation, riparian resources, visual resources, fish and wildlife habitat, forestry, livestock grazing management, wild horses and burros, cultural resources, lands, natural areas, recreation management, wild and scenic rivers, rights-of-way, wilderness, minerals, acquisitions, fire management, special management areas, and socio-economic values. Only those impacts determined to be significant are included in the following sections.

An interdisciplinary approach was used to analyze the environmental consequences. The following general assumptions underlie the analysis:

Funding and staffing will be adequate to fully implement all management actions associated with each alternative.

Any RMP recommendations requiring authorization beyond the level of the Area Manager, District Manager or State Director will be accepted and implemented. For example, RMP recommendations for establishing new withdrawals in excess of 5,000 acres will be favorably acted upon by the Secretary of the Interior and Congressional concurrence will be obtained.

The effective life of the RMP is anticipated to be 20 years.



Short-term impacts are those that would occur within 5 years of implementation of any given management action. Long-term impacts are those that would occur between 5 and 20 years, or longer, after implementation of an action.

Impacts are considered to be direct unless otherwise indicated.

A considerable percentage of the public lands identified as available for disposal would not go into private ownership, due to the lack of water and infrastructure costs. Those lands encumbered by other federal actions, mining claims, or economic constraints would remain in federal ownership.

Any RMP decisions that would affect a wilderness study area and result in non-compliance with the *Interim Management Policy and Guidelines for Lands Under Wilderness Review* would not be implemented unless and until Congress releases that WSA from further consideration for designation as wilderness.

Site-specific environmental assessments (EAs) will be prepared for specific livestock range improvement projects; wild horse and burro habitat enhancement projects; wildlife habitat enhancement projects; recreation facility construction projects; OHV events; issuance of rights-of-way and other land use authorizations and leases; disposal of specific public lands; plans of operation for 43 CFR 3802 and 3809 actions; applications for permit to drill (ADP); and mine plans for sand and gravel extraction.

Acreage figures and other numbers used in this analysis are approximate projections for comparison and analytic purposes only - the reader should not infer that they reflect exact measurements or precise calculations.

The discussion of impacts is based on the best available data. Knowledge of the planning area and professional judgement, based on observation and analysis of conditions and responses in similar areas, have been used to infer environmental impacts where data is limited.

The definition of impacts to cultural resources has a conceptual range that deals with maximum to minimum disturbance. The maximum concept states that the qualities that give a site its eligibility potential must be destroyed to constitute an impact. Even in such a case, adverse impacts can be mitigated through consultation under Section 106. For example, casual collection of a few artifacts on the surface within an aboriginally used shelter that possesses a meter of stratigraphic deposition would not affect the eligibility potential for yielding important data that can add to the knowledge of regional prehistory. If the shelter would be destroyed through permitting a federal action, then a data recovery plan would mitigate those adverse affects.

The minimal point of view states that any change to a cultural resource, no matter how seemingly small, as a consequence of human actions constitutes an affect. For instance, when an archeological property is discovered by people, a cycle of impacts is initiated. These impacts may simply consist of disturbing spiritual or cultural values considered by Native Americans or other interested parties as belonging to the objects, features, or the surrounding area. The impact may also include removing artifacts and in so doing dismembering the cultural property. Conducting a data recovery of the artifacts, charcoal samples, and biological materials at the shelter site proposed for destruction would not mitigate the adverse affects, but merely attempt to reduce the degree of impact. Section 106 consultation provides professional guidance in salvaging a sample of physical items, but does not erase the fact that the site has been destroyed.

The assessment of impacts for cultural resources in this plan assumes a minimal concept of disturbance. Once a site is changed by removal or disturbance as a consequence of the evaluate or disposal phase involved in processing a federal action, a cycle of impacts has begun. The only situation where impacts would be considered positive are those that provide direct benefits through preservation and



are those where an action or a group of similar actions resulting from an environmental policy, such as processing and approving all Plans of Operations within SRA for the the life of the plan, affecting a relatively large number of eligible cultural resource properties. This assessment was determined through the professional judgement of the cultural resource manager.

## **NO ACTION ALTERNATIVE**

## **AIR RESOURCE MANAGEMENT**

### **From Lands Management**

Within the Las Vegas Valley, actual *Santini-Burton* sales, FLPMA Section 203 sales, R&PP sales, leases, and exchanges are expected to total between 15,166 and 39, 748 acres during the life of the RMP. Air resources within the Las Vegas Valley Non-Attainment Area have been degraded by pollutant levels (particulates and carbon monoxide) in excess of ambient air quality standards. Land disposals would indirectly impact the air resource by encouraging growth within the valley. Pollutant sources and discharge would increase with accelerated growth. It is estimated that a temporary significant increase of between 907 and 2,384 tons per year in airborne particulates would result from development of disposed lands. This production figure is based on an annual disposal rate of from 756 to 1,987 acres over the life of the RMP (20 years) and an average particulate production figure of 1.2 tons per acre per year. Once construction activities are completed, a given site generally will not continue to emit particulates.

Carbon monoxide levels would be expected to rise as the number of vehicles within the valley increases. Additional carbon monoxide emissions directly related to land development activities would range from 91 to 238 tons per year, based on the annual disposal acreage and an average carbon monoxide production of 0.12 tons per acre per year. These emissions would be short term on any given site but would be ongoing throughout the life of the RMP. Growth induced long-term vehicle carbon monoxide contributions of from 567 to 1,490 tons per year (based on the annual disposal acreage and an average carbon monoxide production figure of 0.75 tons per year) could be anticipated.

### **From Recreation Management**

Competitive OHV use has the potential to produce significant amounts of particulate matter, particularly if events are conducted in areas where soils are susceptible to erosion. Within the SRA, approximately 90,550 acres have a high erosion susceptibility and approximately 1,306,628 acres are moderately susceptible. Surface disturbances, both on existing roads/trails and off-road, would leave soils vulnerable to wind erosion, resulting in wind-blown dust production in these areas. The creation of windblown dust would be of particular concern within the Las Vegas Valley Non-Attainment Area, where particulate matter already exceeds Air Quality Standards. Events held within the valley or upwind of the valley would result in a short-term further degradation of Las Vegas Valley's air quality.

### **From Minerals Management**

Mineral exploration and development could produce long-term significant impacts on the air resource, primarily resulting from dust production. This is particularly true within critical erosion condition areas (96,994 acres), stable to moderate erosion condition areas with highly susceptible soils (68,506 acres), and the Las Vegas Valley Non-Attainment Area. Based on information gathered from three gravel operations in the Non-Attainment Area (Lone Mountain, East, and Salt Lake Highway gravel pits) by the Clark County Health District, the average size gravel operation (78 acres) has the potential to produce 47 tons of particulates annually. This equates to a per



acre production of 0.6 tons per year or a total of 174 tons per year from the approximately 290 acres under production. During the life of the RMP, it is estimated that 1,500 acres would be in gravel production at any given time, resulting in particulate generation of 900 tons annually.

## SOILS RESOURCE MANAGEMENT

Soil loss figures are based on the total acreage of disturbance that can reasonably be estimated. The acreage of disturbance for each impacting activity, along with the annual soil losses per acre (above that which would naturally occur) are based on soil survey information, literature review, consultation, and field observations. These figures are intended to provide a basis for comparison of impacts and alternatives. Actual soil losses and acreage disturbed could vary from the predicted amounts.

### From Livestock Grazing Management

Under this alternative 42,685 acres of soils in a critical erosion condition and 60,364 acres of soils highly susceptible to erosion would be disturbed by livestock grazing. Grazing within these areas could be expected to result in an increased soil loss of approximately 5 to 10 tons per acre per year for an average total annual loss of 650,654 tons. The active allotments containing critical condition (cc) and highly susceptible (hs) soils and the annual increases in soil loss which could be expected are listed below.

Arrow Canyon - 5,477 acres (cc), 8,117 acres (hs)	0 tons
Azure Ridge - 6,502 acres (cc)	48,765 tons
Bunkerville - 669 acres (cc), 23,494 acres (hs)	181,222 tons
Dry Lake - 270 acres (hs)	0 tons
Flat Top Mesa - 1,860 acres (cc), 2,328 acres (hs)	31,410 tons
Gold Butte - 2,489 acres (cc)	18,668 tons
Ireteba Peaks - 5,681 acres (cc)	42,607 tons
Jackrabbit - 4,266 acres (cc), 2,596 acres (hs)	51,465 tons
Lower Mormon Mesa - 771 acres (cc), 3,452 (hs)	31,672 tons
Mesa Cliff - 8,422 acres (cc), 3,980 acres (hs)	93,015 tons
Roach Lake - 2,431 acres (cc)	0 tons
Rox - 8,019 acres (hs)	60,142 tons
Toquop Sheep - 3,058 acres (hs)	22,935 tons
Upper Mormon Mesa - 1,217 acres (hs)	9,128 tons
White Basin - 4,117 acres (cc), 3,833 acres (hs)	59,625 tons

Ten active allotments, containing 58,237 acres of saline soils, are located entirely or partially within the Colorado River drainage system. Grazing within the saline soil areas could increase soil loss by 3 to 7 tons per acre per year, for an average total annual soil loss of 114,080 tons within those allotments currently in use. Current data indicate that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although the exact percentages of salt contributions from the public lands (including contributions from livestock grazing) within SRA's portion of the drainage are not known at this time, salt loading would be expected to continue at the current rate or increase, particularly within the C category allotments. The active allotments containing saline soils along with, the annual increase in soil loss to be expected are listed below.



Acton-Farrier - 780 acres of saline soils	3,900 tons
Arrow Canyon - 13,624 acres of saline soils	0 tons
Bunkerville - 13,240 acres of saline soils	66,200 tons
Dry Lake - 21,797 acres of saline soils	0 tons
Flat Top Mesa - 381 acres of saline soil	1,905 tons
Hen Springs - 1,764 acres of saline soils	8,820 tons
Hidden Valley - 1,211 acres of saline soils	6,055 tons
Mesquite Community - 408 acres of saline soils	2,040 tons
Muddy Mountains - 4,013 acres of saline soils	20,065 tons
Rox - 1,019 acres of saline	5,095 tons

#### **From Recreation Management**

Soil surface disturbance, both on existing roads/trails and off-road, would leave soils vulnerable to both water and wind erosion. OHV use has the potential to significantly impact the soil resource, particularly if events are conducted in areas with highly susceptible soils and/or soils exhibiting a critical erosion condition. Approximately 90,550 acres of highly susceptible soils and 96,994 acres of critical condition soils are found within the SRA. A soil loss increase of 6.5 to 27 tons per acre per year could be expected from OHV activities in these areas. Of this total, an estimated 9,377 acres would actually be disturbed with a resultant average annual loss of 157,065 tons. Approximately 153,260 acres of critical condition and/or highly susceptible soils within the Colorado River drainage system would lose an average of 128,357 tons annually. The Colorado River drainage system contains over 162,460 acres of saline soils of which 8,123 acres could be impacted by OHV use. From this disturbed acreage, 7 to 15 tons per acre per year can be expected with a resultant average annual loss of 89,353 tons. Current data indicate that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from OHV use) within SRA's portion of the drainage are not known at this time, under this alternative salt loading would be expected to continue at the current rate or increase.

#### **From Rights-of-Way Management**

The potential for significant impacts to the Soil Resource would be present throughout the resource area, depending on where and for what purpose a right-of-way is issued. Within areas containing soils with a high erosion susceptibility, critical erosion condition and/or saline soils, significant adverse impacts could be expected unless proper mitigation measures are adopted. The low precipitation and resultant arid vegetation communities of the planning area are not readily amenable to standard rehabilitation efforts. The soils would be left in a prolonged vulnerable state with the potential for significant wind and water erosion. Few established right-of-way corridors are currently designated within the SRA. Under this alternative, all of Clark County is open to rights-of-way acquisition; Nye County has designated corridors but this does not mean that future rights-of-way would be restricted to these corridors. Within the planning area, 90,550 acres contain highly susceptible soils and 96,994 acres have soils critical erosion condition. Over 281,530 acres of saline soils are found within the SRA, with a majority of the saline soils (170,711 acres, 61 percent), critical erosion condition soils (55,918 acres, 58 percent), and those soils with a high susceptibility to erosion (90,550 acres, 100 percent) located within the Colorado River drainage system. For the purposes of alternative comparison, pipeline/powerline rights-of-way are used here as an example of expected soil loss. It could be reasonably anticipated that 6.5 to 27 tons per acre per year would be lost from 1,875 acres of soil disturbance due to pipeline/powerline construction, resulting in an average annual loss of 31,414 tons from areas containing critical condition soils and highly susceptible soils. Within the Colorado River drainage system, an average loss of 24,533 tons annually could be expected from 1,464 acres of disturbance. In addition, 28,594 tons can be expected to emanate from 2,599 acres of disturbed acres within the drainage system.



## **From Minerals Management**

Impacts to the soils from mineral exploration and development are both temporary and long term. Fluid minerals activities could create minor impacts, primarily associated with road travel and drill pad construction. Little activity of this type now occurs in the SRA and no increases are anticipated. Locatable mineral, mineral material sales, and non-energy leasable activities could result in significant soil erosion problems. Areas with a critical erosion condition (96,994 acres), high erosion susceptibility (90,550 acres), and/or saline soils (281,538 acres) would be particularly vulnerable. Soil disturbance could result from both mineral exploration and development activities, including access and haul road construction, stockpiling of topsoil, and pit construction. With proper mitigation and reclamation, mineral activities would adversely impact the soils in the short term. Mineral development could be expected to be of a long-term nature. The low precipitation and resultant arid vegetation communities of the planning area are not readily amenable to standard rehabilitation efforts. Even after abandonment of mineral developments, soil erosion may continue to be a problem. Under this alternative, 187,544 acres of soils in a critical condition and those highly susceptible to erosion would be open to mineral activity, potentially resulting in a soil loss of approximately 6.5 to 27 tons per acre per year. An average annual loss of 47,118 tons from 2,813 acres of disturbance could be expected, a majority of which would come from within the Colorado River drainage system (36,783 tons). Approximately 2,561 acres (out of a total of 170,711 acres of saline soils) within this drainage would contribute an average annual soil loss of 28,171 tons, further contributing to the Colorado River's existing salinity problem.

## **WATER RESOURCE MANAGEMENT**

### **From Livestock Grazing Management**

An impact on surface water could be expected as a result of livestock grazing. In areas of surface disturbance and water source utilization, varying degrees of change in water quality, quantity, and timing would occur. Livestock grazing is considered to be the major contributor of coliform bacteria contamination in most surface waters sources of the planning area. Approximately 94 percent of spring sources are currently contaminated and expected to remain so unless protective measures are taken. Within the Colorado River drainage system, the greatest impact on the water resource results from erosional sedimentation. An estimated 5 to 10 percent of eroded soil actually reaches surface water sources within the planning area. Variability in the physical features and hydrologic characteristics of each watershed cause the actual amount of soil reaching a stream channel to be somewhat less or more than this estimate. An annual soil loss of 650,654 tons could be expected from 103,049 acres of critical condition and highly susceptible soil areas (48,799 tons of sediment delivered to stream channels). Within the Colorado River drainage, a soil loss of 114,080 tons could occur yearly from 58,237 acres of saline soils (8,556 tons of sediment delivered to stream channels). Approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although exact percentages of the salt contributions from the public lands (including contributions from livestock grazing) within the SRA's portion of the drainage are not currently available, salt loading from grazing would be expected to decrease as livestock use decreases.

### **From Lands Management**

*Santini-Burton* sales, FLPMA Section 203 sales, R&PP sales and leases, and exchanges within the Las Vegas Valley are expected to total between 15,116 and 39,748 acres during the life of the RMP. Within the Valley, growth and development has already resulted in a groundwater overdraft situation and the rapid depletion of Nevada's allocation of Colorado River water. This action would have an indirect impact on the water resource by encouraging growth within the Las Vegas Valley and increasing demand on an already taxed water supply. It is estimated that an annual increase in water demand (from 1,512 to 3,974 acre feet) would result from



development of the disposal lands. This estimate is based on the disposal of between 756 and 1,987 acres per year over the life of the RMP (20 years) and an estimated annual water usage of 2 acre feet per acre of development.

#### **From Recreation Management**

Impacts on soils created by OHV use could also affect surface water. As discussed under impacts from Livestock Grazing Management, the greatest impact on the water resource comes from erosional sedimentation. A soil loss of 128,357 tons could be projected on an annual basis from 153,262 acres of critical condition and highly susceptible soil areas within the Colorado River drainage system (9,627 tons of sediment delivered to stream channels). Within this drainage, an annual soil loss of 89,353 tons could be expected from 162,463 acres of saline soils (6,701 tons of sediment delivered to stream channels).

#### **From Rights-of-Way Management**

Potentially significant impacts to water quantity and quality could occur throughout the planning area, depending on where and for what purpose a right-of-way is issued. The greatest impact on the water resource comes from erosional sedimentation. For purposes of alternative comparison, pipeline/powerline rights-of-way were used as an example of expected soil loss. An annual estimated soil loss of 31,414 tons could be expected from areas with critical and/or highly susceptible soils (2,356 tons of sediment delivered to stream channels). Over 24,533 tons of soil loss could occur within the Colorado River drainage system (1,840 tons of sediment delivered to stream channels). Approximately 28,590 tons of soil could be lost from 170,711 acres of saline soils within this drainage, further contributing to salt loading of the Colorado River (2,145 tons of sediment delivered to stream channels).

#### **From Minerals Management**

An impact on surface water could result from minerals activities which disturb the soils and accelerate erosional processes. An estimated 47,118 tons (3,534 tons of sediment delivered to stream channels) could be lost annually from areas containing soils in a critical condition and those highly susceptible to erosion. The majority (36,783 tons) of these soils would come from within the Colorado River drainage system (2,759 tons of sediment delivered to stream channels). Approximately 170,711 acres of saline soils occur within the Colorado River drainage from which a maximum annual soil loss of 28,171 tons could be anticipated (2,113 tons of sediment delivered to stream channels).

### **VEGETATION MANAGEMENT**

#### **From Air, Soils, and Water Management**

Actions taken to maintain or improve air, soils, and water resources would result in beneficial impacts to vegetation. Approximately 123,948 acres of fragile watershed would be protected by restrictions placed on competitive OHV events. Protective actions proposed in Severe and Critical Soils Surface Factor areas and continuation of fire rehabilitation efforts would ensure that, where possible, impacts to the vegetation resource would be minimized or avoided.

#### **From Vegetation Management**

Management actions for vegetation resources would have a net positive impact on vegetation. Surface occupancy would be avoided on relic stands of several species, including ponderosa pine and white fir. Where feasible, efforts would be undertaken to rehabilitate disturbed areas in accordance with the fire rehabilitation plan and project specific mitigation measures developed in the NEPA process.



Vegetation would progress very slowly toward a desired plant community or Potential Natural Community. Under present management, progression from one condition class to a higher class (i.e. from mid seral stage to late seral stage) would be accomplished in less than 5 percent of the planning area per year.

#### **From Livestock Grazing Management**

Livestock grazing impacts to vegetation would continue to occur on approximately 2,237,478 acres. Under the terms and conditions of the desert tortoise/livestock grazing Section 7 consultation, vegetation could be impacted by livestock grazing on approximately 1,269,680 acres during the period from June 15 through February 28 (or February 29). Specific impacts related to grazing during the growing season for warm season species would include removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor while immature plants would have greater difficulty in becoming established. Physical damage to both forage and non-forage species could result from livestock trampling. Impacts during the dormant period would further reduce vegetative cover and the amount of plant material available for litter. Grazing-related impacts would not occur from March 1 through June 14, benefiting cool season species. Above ground biomass would increase and plant reproductive capability maintained or improved. The vigor of mature plants would be maintained or improved. Increased numbers of immature plants would successfully be established, making more plant material available for litter. Grazing use would be keyed to specific utilization levels, depending on season of use, thus lessening the adverse impacts associated with livestock grazing. If grazing use exceeds these levels, livestock would be removed from the allotment, thus eliminating further adverse impacts to vegetation. In the long term, species diversity should increase and ecological condition approach or reach Potential Natural Community.

Vegetation would continue to be impacted by year-long livestock grazing on approximately 641,000 acres. Specific impacts related to this activity would include repeated and heavy removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor, while immature individuals would have difficulty in becoming established. Physical damage to both forage and non-forage species could result from trampling. Grazing use would be keyed to specific utilization levels, depending on season of use, thus lessening the adverse impacts associated with year-long grazing. If grazing use exceeds these levels, livestock would be removed from the allotment. Further adverse impacts to vegetation from grazing would then be eliminated. In the long term, species diversity and ecological condition should be maintained. Deterioration of riparian vegetation would continue under present grazing management practices, until AMPs and riparian management plans are developed and implemented.

#### **From Recreation Management**

Unrestricted casual OHV use of approximately 2,900,998 acres designated as open would continue to adversely impact vegetation by crushing and uprooting plants. The soils compaction which results from these activities would reduce water infiltration rates, decrease root growth, and prevent seedling establishment. The level of casual OHV use and attendant impacts vary considerably from location to location. Some areas with an open designation receive little or no casual OHV use; other areas receive heavy use. If OHV-related impacts are intermittent and do not uproot the plants, the vegetation resources would restore the physical damage over time. If the impacts are severe and repeated, however, vegetation could be entirely removed from some areas. In the long term, these areas would remain barren as a result of soils compaction, the lack of a seed source, and the aridity of the local environment.

Adverse impacts to vegetation would continue to occur from competitive OHV use. Approximately 3,192,075 acres are available for such activities, although the actual acreage impacted is considerably less. Several factors, including topographical constraints, seasonal restrictions, the use of established courses, and public demand, influence the areas in which competitive OHV use occurs. The impacts would be the same as those identified above for repeated, heavy casual OHV.



### **From Minerals Management**

All types of mineral exploration and development activities adversely affect vegetation. Depending on the type of mineral activity, from 4,208,846 to 4,496,342 acres would remain open to mineral exploration and development. Impacts of varying intensity could occur to vegetation resources within this area. In general, mineral exploration and development activities would physically damage or destroy plants through the use of vehicles, equipment, hazardous materials, and the stockpiling of materials. Revegetation in the planning area would be extremely difficult due to the arid environment and high temperatures. Soil compaction, mixing of soil horizons, the presence of hazardous materials, and high concentrations of minerals in areas of such activities would further hamper revegetation efforts.

## **RIPARIAN MANAGEMENT**

### **From Livestock Grazing**

Livestock grazing impacts within the planning area are concentrated in riparian areas. An estimated 70 percent of the spring-associated riparian areas are in a poor condition. The majority of riparian areas associated with perennial streams are also in a poor to fair condition. Livestock grazing within riparian areas prevents regeneration of desirable vegetative types, compacts soil, increases surface salinity, hinders plant growth, and can lower the water table by increasing soils erosion. Under current livestock grazing management, the riparian resource could be expected to continually deteriorate. Of the 200 springs identified within the SRA, 80 are located within 10 active allotments (approximately 40 acres of riparian zone). Livestock would continue to congregate along the channels of the Virgin River, Meadow Valley Wash, and the Muddy River, causing further degradation of the associated riparian zones.

### **From Wild Horse and Burro Management**

Adverse impacts from wild horse and burros are also concentrated in riparian areas. An estimated 70 percent of the spring-associated riparian areas are in a poor condition. The majority of riparian areas associated with perennial streams are also in a poor to fair condition. Wild horse and burro grazing within riparian areas prevents regeneration of desirable vegetative types, compacts soil, increases surface salinity, hinders plant growth, and can lower the water table by increasing soils erosion. Under management practices, the riparian resource could be expected to continually deteriorate. Of the 200 springs identified to date within the SRA, 58 are located within five Herd Management Areas (approximately 29 acres of riparian zone).

### **From Riparian Resource Management**

Riparian areas would continue to be managed to maintain, restore or improve these areas to a healthy and productive ecological condition. Under this alternative, 75 percent of the 200 spring-associated riparian areas and those riparian areas associated with perennial streams would be in proper functioning condition by the year 1997. Riparian-wetland areas are considered to be properly functioning when they dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity.



## **VISUAL RESOURCE MANAGEMENT**

### **From Lands Management**

The urbanization of southern Nevada would cause a loss of the natural landscape in the Las Vegas Valley and the Mesquite, Pahrump, and Laughlin areas. Significant changes in the form, line, color, and texture of the existing landscape would be caused by new roads, housing developments, commercial construction, recreation facilities, and schools.

### **From Recreation Management**

Recreation project construction in the Red Rock Canyon NCA would cause short-term visual impacts to the area's form, line, color, and texture. The most notable projects would include parking and picnicking facilities constructed along the Scenic Loop. Other impacts could occur through increased recreational uses in the special recreation management areas as camping, picnicking, vehicle touring, and hiking increase. Potential trail and campground construction would affect the form, line, color, and texture of the existing landscape.

Off-highway vehicle use would lower the visual quality of the existing landscape through the creation of new roads, trails, and ways. These new roads, trails, and ways, as well as road widening and short-coursing resulting from OHV events, would cause visual scars which affect the line, color, and texture of the existing landscape.

## **FISH AND WILDLIFE HABITAT MANAGEMENT**

### **From Air, Soils, and Water Management**

Improved watershed conditions would lead to better productivity as well as increased forage and cover for wildlife. Erosion control, particularly in riparian areas, would encourage vegetative production and improve water quality. These areas would have enhanced value as wildlife habitat. There would be beneficial impacts to wildlife in localized areas, due to improvements in those aquatic and riparian habitats.

### **From Vegetation Management**

Beneficial impacts would include an improved forage base for most wildlife species and improved cover for some species (i.e. quail and desert tortoise). The maintenance of unique vegetation types, such as mesquite, would provide habitat for some species which might not otherwise be found in the Resource Area.

### **From Riparian Management**

Greater plant species diversity, increased vegetative and litter cover, improved water quality and reduced erosion would result from proposed management actions. A greater diversity and density of wildlife species would find habitat in these improved riparian areas. Water availability would allow for greater dispersal of wildlife and lessen impacts on the vegetation. The distribution and density of wildlife species which depend upon riparian habitat may change over the long term. Riparian condition affects the water temperature, silt load, instream flow, spring flow, water quality and salinity of aquatic habitat. The threatened and endangered fish in the Virgin River or BLM inholdings in Ash Meadows could be benefited by these riparian improvements.

### **From Fish and Wildlife Habitat Management**

The reintroduction of desert bighorn sheep into historic habitat and the expansion of current range would positively affect bighorn populations. Sufficient forage, cover, and space to support reasonable numbers of



bighorn sheep would be provided resulting in beneficial impacts to bighorn sheep populations. The development and successful implementation of Habitat Management Plans (HMPs) would improve bighorn sheep habitat and allow for increases in population size.

Upland game species would be beneficially impacted. Riparian improvements, and project development would provide for maintaining or improving existing populations of upland game. The improvement of riparian habitats could result in changes in the distribution and density of some upland game species in localized areas.

All Federal actions which may affect a threatened or endangered species would continue to be submitted to the USFWS for Section 7 consultation, as required by law. All impacts and their level of significance would be identified at that time and appropriate mitigation measures developed. The BLM would then implement those reasonable and prudent measures necessary to ensure the continued existence of the species. Impacts to candidate species would be identified through the NEPA process and mitigated to reduce the level of impact to insignificance.

### **From Livestock Grazing Management**

Approximately 2,237,478 acres would be open to livestock grazing, impacting desert tortoise habitat. Livestock grazing on allotments which contain desert tortoise habitat would be constrained by stipulations developed through Section 7 consultation with the USFWS. Stipulations developed through Section 7 consultation would reduce negative impacts on desert tortoise but may not result in the recovery of the species.

Implementation of grazing Prescription 1 would significantly benefit the desert tortoise by reducing the level of negative impacts. The elimination of grazing from March 1 to June 14 in Category I, II and "intensive" III tortoise habitat would reduce competition between livestock and tortoises for forage. The potential for trampling of tortoises during their most active period would be reduced. Over time, the quality of tortoise habitat is expected to improve in Category I, II and "intensive" III habitat. Spring rest would be expected to increase desirable plant species diversity, composition, and ground cover. This would better provide for the nutritional needs of the desert tortoise, reducing the incidence of malnutrition. Better overall health of tortoises would increase resistance to URTD (upper respiratory tract disease) and result in more vigorous populations. Adult mortality would be expected to be reduced, the incidence of osteoporosis in younger animals would decrease, clutch size would increase, and annual recruitment should increase. Increased vegetative cover would reduce the rate of predation on hatchling and juvenile tortoises.

Implementation of grazing Prescription 2 would support the existing vegetative communities on "non-intensive" Category III tortoise habitat. Restricting the utilization of key forage species to 40 percent would sustain current habitat quality, with possible improvement. Tortoise populations would be maintained at current levels and negative impacts to tortoise would continue.

Implementing the CRMP decisions for Crescent Peak Allotment would benefit wildlife. The possibility of disease transmission between livestock and bighorn sheep would be reduced. Approximately 10,000 acres of high density desert tortoise habitat would be excluded from all livestock grazing and OHV activities. Livestock use on those portions of the allotment outside the enclosure would be reduced from historic levels. Ample annual forage would be reserved for desert tortoise and utilization levels on perennial forage would be decreased. A greater amount and variety of forage would be provided for desert tortoise, lowering the incidence of malnutrition and osteoporosis. Improved vigor of tortoise populations would reduce the susceptibility of individuals to URTD. Reduced utilization levels would improve cover for hatchling and juvenile tortoises, susceptible to predation. Livestock distribution would be changed through the use of new waters, resulting in less use in tortoise habitat during the tortoise active period. Competition for forage would be lessened and the likelihood of trampling by livestock of tortoises and burrows. Over the long term, increased recruitment rates would aid in the recovery of the tortoise. Upland game and non-game species would indirectly benefit from the improvement to range condition.



Negative impacts could be sustained by desert bighorn sheep as a result of domestic sheep grazing. The Bunkerville, Hen Springs, and Mesquite Community allotments would continue to be used to trail domestic sheep into the Toquop Sheep Allotment which is licensed for domestic sheep. Stray or trespass domestic sheep could contact desert bighorn sheep in both the Virgin and Mormon Mountains. It is well documented that bighorn are extremely susceptible to the diseases of domestic livestock and mortality rates are generally high. Bluetongue, contagious ecthyma, chronic frontal sinusitis, scabies, as well as bacterial pneumonia are common diseases of livestock that have been identified as mortality factors in bighorn sheep (Jessup et al 1987).

#### **From Wild Horse and Burro Management**

Seven herd management areas in the planning area would continue to be managed to support wild horses and burros (see Table 2-29). The Gold Butte Herd Management Area overlaps with Category I tortoise habitat but the burros do not currently use that portion of the herd management area. If burros expand into the Category I tortoise habitat, a potential competition for forage could develop during the tortoise active season. Burros could trample tortoises or their burrows. Heavy burro use of tortoise habitat could result in undesirable changes in the vegetation, leading to an increase in malnutrition and osteoporosis. Reduced vigor of individual tortoises could increase susceptibility to URTDs. Changes in the vegetative component could lead to reduced cover for hatchling and juvenile tortoises, resulting in increased predation and decreased recruitment rates.

#### **From Lands Management**

Discretionary Disposal Areas - Approximately 7,788 acres of Category I and II tortoise habitat would be available for disposal. Although much of this land would be marginal wildlife habitat due to the proximity of developed lands, continued expansion of developed areas, made possible by land disposal, would continually create new marginal areas. The Las Vegas Subunit does not take geographical features into account and allows for the disposal of large blocks of land which are relatively undisturbed. Direct impacts to desert tortoises would include incidental take and loss of habitat. Indirect impacts would include the increased possibility of take due to casual recreational use of habitat adjacent to population centers, harassment by domestic dogs and cats, degradation of habitat from recreational use and illegal dumping.

Legislative Disposal Areas - Legislative disposal of large blocks of public land would have negative impacts on wildlife. Impacts to desert bighorn sheep could include loss of habitat, fragmentation of habitat, and disruption of migration routes. Negative impacts to desert tortoise could include permanent loss of habitat, habitat degradation, restriction of tortoise movements due to fencing, direct mortality and illegal collection. Additional negative impacts would include habitat fragmentation and a potential increase in predation as a result of powerline construction which provides perching sites for ravens and raptors. Legislative disposal in the past have or will result in the loss of 40 percent of the potential Category I tortoise habitat in Coyote Springs and Dry Lake valleys, and 67 percent of the intensive Category III habitat in Eldorado Valley. Negative impacts to other wildlife species include increased direct mortality and ground water withdrawals which could effect springs discharge and riparian habitat.

Section 302 Leases - Under this alternative, 3,140,585 acres in the planning unit would be available for land use leases and permits under Section 302 of FLPMA. Negative impacts to wildlife would include habitat loss, fragmentation or degradation of habitat, direct mortality, and increased potential for harassment. These impacts could be significant depending upon the size and location of the lease. For example, issuance of a lease in Category I or II tortoise habitat or tortoise management areas would be significant. Whereas, issuance of a lease in "non-intensive" Category III habitat probably would not be significant.

Withdrawals - Valid existing withdrawals would be carried forward and would have beneficial impacts on wildlife. Approximately 193.19 acres of pupfish habitat in the Ash Meadows area has been withdrawn from public land laws, agricultural laws, and the 1872 *Mining Law*. These pupfish withdrawals would have a beneficial impact on T&E species by protecting essential and critical habitats. The Mesquite legislative Retention Area withdraws



637.52 acres along the Virgin River from the public land laws, the 1872 *Mining Law*, the 1920 *Mineral Leasing Act*, and the 1970 *Geothermal-Steam Act*. This withdrawal would have beneficial impacts on wildlife along the Virgin River, by protecting riparian and aquatic habitat.

The Aerojet Buffer Zone Lease Agreement Area would have a positive impact on desert tortoise. The Lease Agreement withdraws 8.8 percent of the potential Category I tortoise habitat in Coyote Springs Valley from the public land laws, the 1872 *Mining Law*, the 1920 *Mineral Leasing Act*, and the 1970 *Geothermal-Steam Act*. If those lands were to be developed, the loss, fragmentation, and degradation of habitat and direct mortality would constitute a negative impact to the desert tortoise.

Under this alternative, 83,100 acres in Red Rock Canyon are withdrawn from the public land laws, the 1872 *Mining Law*, the 1920 *Mineral Leasing Act*, and the 1970 *Geothermal-Steam Act*. This withdrawal would have a beneficial impact on desert bighorn sheep, peregrine falcon, and many other wildlife species by providing additional protection of wildlife habitat.

Pending withdrawals - A total of 1,569 acres in Nye County would be withdrawn by the BLM, constituting a beneficial impact on T&E plants and animals in Ash Meadows National Wildlife Refuge (NWR). Such withdrawals would afford increased protection of limited habitats of T&E species.

Airport Lease Classifications- Approximately 2,827 acres would be leased for airports. The Ash Meadows airport lease includes 520 acres identified in the *Ash Meadows Recovery Plan* (USFWS 1984) as essential for the maintenance of the Ash Meadows ecosystem. Of this total, 200 acres are within the Ash Meadows NWR boundary. No designated critical habitats are within the proposed lease. Development of an airport within essential habitat would affect T&E species. Negative impacts which could result from the operation of an airport within the wildlife refuge would include loss of habitat, degradation of habitat, potential contamination of ground water, and other possible impacts associated with noise and vibrations. Most species occurring on the refuge are so limited in numbers and distribution that a single catastrophic event, such as a plane crash or hazardous materials spill, could result in extinction of the species.

#### **From Recreation Management**

Off-road vehicle designations - Five acres on Big Dune would be closed to OHV use resulting in a negative impact to candidate species, as less than 1 percent of the available habitat would be protected. Negative impacts would include degradation of habitat and other unknown impacts.

Approximately 261,700 acres or 77 percent of Category I tortoise habitat would remain open to casual OHV use. The other 23 percent, in Gold Butte, would be limited to existing roads and trails. No Category I habitat would be limited to designated roads and trails. Approximately 66 percent or 432,170 acres of the Category II tortoise habitat would remain open to casual use. Two percent of the Category II habitat would be limited to designated roads and trails and 32 percent would be limited to existing roads and trails. There would be a negative impact on desert tortoise under this alternative. Off-road vehicle use crushes vegetation, compacts soil, causes direct mortality due to road kills, increases the potential for harassment of wildlife and vandalism of wildlife projects. A proliferation of roads open for casual use could result, increasing the potential for harassment and direct mortality of tortoises and other wildlife.

OHV racing - Fifty-two percent of the Category I and 39 percent of the Category II habitat would be closed to high-speed competitive events. Approximately 8 percent of the Category I and 39 percent of the Category II habitat would remain open to OHV racing with no restrictions, other than those imposed through Section 7 consultation. An additional 40 percent of the Category I and 22 percent of the Category II habitat would be open to high-speed competitive events with some restrictions. The entire resource area, with the exception of Hidden Valley, would be open to non-speed, non-competitive events. Desert tortoises would sustain negative impacts from OHV racing. Impacts would be reduced through section 7 consultation but would include direct mortality,



habitat degradation and fragmentation. High speed, competitive events cause increased compaction and erosion of soils, the widening of existing roads and trails, the creation of new roads and trails, and an increased potential for direct mortality and harassment. Off-road activity by spectators can also cause extensive damage to vegetation and soils, as well as direct mortality and harassment of wildlife. Although direct impacts are mitigated to the extent possible through race stipulations, most of these stipulations are aimed at preventing incidental take. No off-site compensation or rehabilitation of courses has been required. For the most part, OHV events proposed in Category I and II tortoise habitat would continue to be denied. Authorizing OHV competitive events in Category I and II tortoise habitat or tortoise management areas would constitute a significant negative impact.

#### **From Wild and Scenic River Management**

The Virgin River would be evaluated for eligibility for wild and scenic river classification. Such classification would benefit most wildlife and could be a significant benefit to T&E fish species, as the river would be managed as a natural aquatic system.

#### **From Rights-of-Way Management**

The lack of designated corridors throughout the remainder of the planning unit could have a long-term negative impact on wildlife, particularly the desert tortoise. Designated utility corridors would prevent the proliferation of utility lines and facilitate mitigation. Concentrating powerlines in narrow corridors would restrict and localize raven perching sites. Despite the designation of corridors, overhead powerlines would have a negative impact on desert tortoise by providing additional perching sites for ravens, causing loss and degradation of habitat and direct mortality during construction. Access roads for utility ROWs can also result in increased access into wildlife habitat. Increased access results in greater potential for incidental take, harassment and degradation of habitat.

#### **From Wilderness Management**

In the short term, wildlife would benefit under *Interim Management Policy*. Long-term, the designation of wilderness would positively impact wildlife. Although some management activities may be precluded in wilderness areas, long-term habitat protection from OHV use, mineral exploration and development, and associated indirect impacts would outweigh any negative impacts.

#### **From Minerals Management**

Impacts to wildlife from mineral exploration and development would include direct mortality during construction. Loss and degradation of habitat, harassment, increased possibilities of incidental take during these activities, and the proliferation of access roads into wildlife habitat could also occur. There could be significant negative impacts on wildlife, depending upon the location and extent of the mineral activity. Existing mineral withdrawals would have a positive impact on T&E species by providing additional protection for wildlife habitat.

#### **From Acquisitions Management**

Acquisition of key wildlife habitat would have a beneficial impact on wildlife by preventing fragmentation and future development of habitat.



## **FORESTRY MANAGEMENT**

### **From Forestry Management**

The entire planning area would continue to be available for fuelwood sales on a case-by-case basis, subject to NEPA compliance and multiple use concerns. The only area that would be authorized for the harvest of fuelwood would continue to be 400 acres of mesquite near Crystal in the Amargosa Desert and 600 acres south of Pahrump. Harvest would continue to be limited to non-commercial use and would be restricted to one cord per household per year. A maximum of 15 cords per year could be harvested.

Approximately 1000 plants per year could continue be sold on a salvage harvest basis where surface-disturbing activities would destroy desert vegetation.

## **LIVESTOCK GRAZING MANAGEMENT**

### **From Fish and Wildlife Habitat Management**

Management actions resulting from the desert tortoise/livestock grazing Section 7 consultation and taken to protect and ensure the recovery of the desert tortoise would have a significant impact on the livestock grazing program in the SRA. Livestock operators on 34 different allotments would not be authorized to graze livestock on approximately 1,389,000 acres of Category I, Category II, and "intensive" Category III desert tortoise habitat from March 1 through June 14. This translates into an annual loss of approximately 5,124 AUMs, in terms of averaged licensed use. Grazing use would be keyed to specific utilization levels, depending on season of use. If grazing use exceeded these levels, livestock would be removed from the allotment. In Category I, Category II, and "intensive" Category III desert tortoise habitat, use levels on all key perennial species could not exceed 40 percent of current year's growth from June 15 through October 14. Use levels could not exceed 50 percent on key perennial grasses and 45 percent of key perennial shrubs and forbs between October 15 and February 28 or 29. The majority of the grazing allotments in the planning area are "water-base", where control of water sources on the allotment (such as springs and wells) serve as the base property for the grazing permit or lease. The operators generally do not own private pasture land and would, therefore, be forced to either rent or purchase other grazing lands or sell their livestock during this period.

For approximately 641,000 acres of "non-intensive" Category III desert tortoise habitat, livestock operators on 19 different allotment would be required to remove their livestock only if grazing use exceeded the established utilization levels. From February 15 through October 14, use levels could not exceed 40 percent on all key perennial species. Between October 15 and February 14, use levels could not exceed 50 percent on key perennial grasses and 45 percent on key perennial shrubs and forbs.

Range improvements, including water hauls and corrals, would not be constructed in sensitive wildlife areas (i.e. bighorn lambing grounds) and within one-half mile of wildlife water developments.

### **From Livestock Grazing Management**

Livestock grazing would continue to be authorized on a total of 2,237,478 acres. Grazing use would continue to be licensed in accordance with the Ephemeral Range Rule on approximately 1,899,893 acres. The Mt. Stirling Allotment (126,320 acres) would continue to be classified as ephemeral-perennial with a grazing preference of 1200 AUMs. Seventy-one percent (1,499,110 acres) of the area available for grazing would be subject to the terms and conditions of the desert tortoise/livestock grazing Section 7 consultation.

Approximately 875,335 acres would continue to be closed to livestock grazing. This figure includes 117,400 acres in the Sunrise Mountain, Indian Springs, River Mountains, and Las Vegas Valley Allotments, 21,000 acres



in the Ash Meadows, Carson Slough, and Grapevine-Rock Valley Allotments, 252,290 acres in the Spring Mountains and Younts Spring Allotments, and 581,700 acres in unallotted areas in Nye County. The Lake Mead NRA Allotment (10,400 acres withdrawn by NPS) would remain closed to livestock grazing; these acres *are not* included in any acreage figures used in this analysis.

Annual applications for grazing use would not be required. Permittees could apply for and be authorized grazing use at any time during the year when forage is available or has the potential to be available, subject to the terms and conditions of the desert tortoise/livestock grazing Section 7 consultation. Grazing authorizations would be based on total forage production (both ephemeral and perennial species).

Utilization of key forage species would be limited to 55 percent of current year's growth, except in desert tortoise habitat where utilization levels would be limited to 40, 45, or 50 percent depending on season of use and type of vegetation. Until AMPs are developed and implemented, distribution of livestock would continue to be controlled by the availability and location of water for the majority of allotments. Present livestock management practices would have a long-term adverse effect on grazing management. Perennial vegetation (forage) recovery from constant use would be very slow, since livestock tend to graze the same areas at the same time every year, with no rest afforded forage plants during the growing season. This would reduce the vigor and reproductive capability of the forage species, thus reducing the amount of forage that could be produced over the long term. Less forage would be available for livestock grazing in the long term.

Allotment management plans would be developed for "I" and "M" allotments. With attendant range improvements and more uniform distribution of use, forage condition and ecological status should improve over the long term. Range improvements scheduled for development by the Clark MFP and the Esmeralda-Southern Nye RMP include 185 miles of fence, 20 cattleguards, 7 wells and storage tanks, 10 springs, 56 miles of pipeline, 59 troughs, 4 reservoirs, and 2 water hauls.

Forage production over the long term could potentially increase by an estimated 5 percent, following full implementation of AMPs. The net improvement could be as much as 500 AUMs per year, divided among several allotments after AMP implementation, despite the restrictions on grazing which would be imposed to reserve forage for desert tortoise. Allotments which contain desert tortoise habitat would have first priority for AMP development.

#### **From Wild Horse and Burro Management**

Wild horses and burros in six different HMAs (Gold Butte, Muddy Mountains, Eldorado, Spring Mountains, Mt. Stirling, and Last Chance) would continue to compete directly with livestock for forage, water, and space on all or portions of nine active grazing allotments (Mt. Stirling, Lucky Strike, Wheeler Wash, Table Mountain, Muddy Mountains, White Basin, Gold Butte, Azure Ridge, and Ireteba Peaks). Approximately 363,689 acres of public rangelands would be affected.

#### **From Recreation Management**

Approximately 2,232,405 acres of public lands available for livestock grazing would continue to be designated as open to unrestricted casual OHV use, resulting in both direct and indirect impacts to livestock grazing. Direct impacts could occur as a result of harassment of livestock and vandalism of range improvements by some OHV recreationists. Indirect impacts would include decreased forage production and availability, as a result of the damage and destruction of forage plants by the passage of OHVs.



## **WILD HORSE AND BURRO MANAGEMENT**

### **From Air, Soils, and Water Management**

In the short term, management actions to protect or improve soil and water resources may impact wild horse and burros management by requiring a reduction in wild horse or burro numbers to allow for the recovery of vegetation, especially in riparian areas. Over the long term, these actions would have a beneficial indirect impact on wild horse and burro management by improving the overall condition of the vegetation and water quality and quantity within HMAs. Wild horse and burro populations could then be allowed to increase until a thriving natural ecological balance was attained.

### **From Fish and Wildlife Habitat Management**

Management actions taken to maintain or enhance fish and wildlife habitat would continue to have relatively minor impacts to wild horse and burro management, except in the case of threatened and endangered species. Competition with desert bighorns for forage, space, and water would continue on approximately 198,100 acres in the Gold Butte, Muddy Mountains, and Eldorado HMAs. Development of artificial wildlife waters, such as big game guzzlers, could result in wildlife populations expanding into areas currently being utilized by wild horses and burros. This expansion would perpetuate competition between the animals for forage, space, and water. The introduction of desert bighorn sheep into new areas or the re-introduction of bighorn into unoccupied historical use area could increase the level of inter-species competition.

The 20,000 acre Ash Meadows HMA would continue to be managed as a horse-free area due to conflicts with threatened and endangered species management in the Ash Meadows National Wildlife Refuge. The 10,000 acre Amargosa HMA would continue to be managed at a "0" population level due to a lack of water, inadequate forage production, and conflicts with private land owners in the area.

Management of threatened and endangered species could have major impacts on wild horse and burro management. In extreme cases such as Ash Meadows, wild horse and burros would continue to be excluded from areas where they occurred in 1971, in order to protect and ensure the recovery of threatened and endangered plant species unique to the Ash Meadows ecosystem. Wild horse and burro populations could be reduced to ensure adequate forage availability for the desert tortoise. Where necessary, the boundaries of four HMAs (Gold Butte, Eldorado, Muddy Mountains, and Last Chance) could be revised to accommodate the desert tortoise.

### **From Livestock Grazing Management**

Livestock grazing on nine active grazing allotments (Mt. Stirling, Lucky Strike, Wheeler Wash, Table Mountain, Muddy Mountains, White Basin, Gold Butte, Azure Ridge, and Ireteba Peaks) would continue to impact wild horse and burro management; approximately 363,689 acres in six HMAs (Gold Butte, Muddy Mountains, Eldorado, Spring Mountains, Mt. Stirling, and Last Chance) would be affected. Livestock compete with wild horses and burros for forage, space, and water. Allotment boundary fences and interior pasture fences would continue to present a physical hazard to wild horses and burros, restricting in some cases their wild and free-roaming nature.

### **From Wild Horse and Burro Management**

Wild horses and burros would continue to be managed on 668,241 acres of public lands in six HMAs (Eldorado Mountains, Gold Butte, Last Chance, Mt. Stirling, Muddy Mountains, and Spring Mountains). In these HMAs, wild horses and burros would continue to be managed at 1982 population levels until monitoring determined the thriving natural ecological balance appropriate for each HMA. The long-term population level necessary to achieve and maintain a thriving natural ecological balance may be less than current population levels. Both the



wild horses and/or burros and their habitat would be monitored to achieve and maintain this thriving natural ecological balance within each HMA.

Wild burros in the Gold Butte HMA would continue to be managed in accordance with the terms and conditions of the Gold Butte Herd Management Area Plan. Herd area management plans (HMAPs) would be developed for the other HMAs, detailing water and range improvement development, as well as herd management methods. These HMAPs would detail both short and long-term herd and habitat management practices in order to maintain healthy, viable populations of wild horses and/or burros in a thriving natural ecological balance within each HMA.

The wild and free-roaming character of wild horses and burros would continue to be maintained by modifying livestock improvements in HMAs, as necessary. Wild horses and burros would continue to be managed within designated HMAs only and would not be allowed to expand outside the delineated HMA boundaries.

#### **From Recreation Management**

Wild horses and burros would continue to be impacted by unrestricted OHV use on 193,710 acres of designated open areas, encompassing four entire HMAs (Muddy Mountains, Eldorado, Mt. Stirling, and Last Chance). Approximately 27 percent (79,403 acres) of the Spring Mountain HMA would also be affected. Off-highway vehicle use would adversely impact wild horse and burro forage by crushing and uprooting plants. The level of casual OHV use and attendant impacts varies considerably from location to location. Some areas with an open designation receive little or no casual OHV use; other areas receive heavy use. If OHV-related impacts are intermittent and do not uproot the plants, physical damage can be repaired over time. If the impacts to wild horse and burro forage species are severe and repeated, forage could be entirely removed from some areas. In the long term, these areas would remain barren as a result of soils compaction, the lack of a seed source, and the aridity of the local environment.

Adverse impacts to wild horses and burros in the Muddy Mountain HMA would continue to occur from competitive OHV use (Gamblers Bitter Springs Hare Scramble). The impacts would be similar to those identified above for repeated, heavy casual OHV. Recreational hunting and target shooting in HMAs would have an adverse effect on wild horses and burros by forcing the animals to move away from forage, water, or shelter, or by causing direct injury or death.

#### **CULTURAL RESOURCE MANAGEMENT**

As noted above, the definition of impacts to cultural resources relies on a minimal concept. This implies that any kind of change to an historic feature, prehistoric site or cultural resource, no matter how seemingly small or minimal, is an impact. This minimal concept further implies that, for example, although present and foreseeable actions are expected to disturb a maximum of 320,000 acres under the No Action Alternative, impacts to cultural resources would occur within an Area of Potential Effect that includes an additional estimated radius of acreage surrounding each area projected for indirect effects. Indirect and direct impacts are treated as one under cultural resource management. Thus, the estimated acreages and number of cultural resources projected for impacts from each management program would be larger than that calculated for direct impacts.

#### **From Forestry Management**

Development of greenwood cutting programs in the Virgin, McCullough, and Spring Mountains and removal of native vegetation throughout the SRA has the potential to affect approximately 700 eligible sites, through disturbance from off-road driving, activities by people during cutting, unauthorized collection, dragging trees across sites, and opening previously isolated areas to future disturbance by clearing stands of vegetation. The forestry program has the potential for significant adverse impacts to cultural resources.



### **From Livestock Grazing**

The continuation of livestock grazing on 2,232,405 acres of public lands and the construction of rangeland improvements has the potential to affect 5,600 eligible sites and 31,000 acres of Traditional Lifeway Areas in all or portions of 15 of the 19 identified cultural zones. Affects could include trampling of sites by cattle, surface disturbance from vehicles used by permittees, and the destruction of sites during range improvement construction. The integrity of archeological districts and Traditional Lifeway Areas in the Gold Butte, Whitney Pocket, Arrow Canyon Range, Muddy, McCullough, and Virgin Mountains, in particular, may be sacrificed. Impacts to cultural resources could be significant.

### **From Cultural Resource Management**

Positive effects would continue to occur under the proactive element of the cultural resource program. These actions would include preservation and public interpretation of sites through implementation of Cultural Resource Project Plans. Patrols to monitor several important archeological sites in the SRA would be continued by Bureau employees and volunteers. The cultural resource database would continue to be enlarged during compliance-related inventories, site identifications, and evaluations conducted prior to the authorization of any surface-disturbing activities on public lands. Federal actions are subject to consultation review under Section 106 of the *National Historic Preservation Act*. If adverse effects are anticipated, the negative impacts would be mitigated through avoidance, data recovery or other actions.

### **From Lands Management**

The availability of 3,140,585 acres of public land for leases, permits, rights-of-way, disposal, and other land uses has the potential to affect 6,300 eligible sites, specifically within the settled limits of Goodsprings, Searchlight, Nelson, and the Moapa and Virgin Valleys. Disposal of lands, as well as permitted and unpermitted uses, and subsequent construction activities could cause the total destruction of sites and the opening of previously inaccessible areas. The potential for significant impacts to cultural resources would continue to be present under this alternative.

### **From Natural Areas Management**

The management of three designated natural areas, encompassing 16,950 acres, would continue to protect previously identified and as yet unrecorded archeological sites by restricting surface-disturbing activities, in accordance with the IMP non-impairment criteria. One area, encompassing 150 acres, would also continue to be withdrawn from operation of the 1872 *Mining Law* and the public land laws, further restricting surface-disturbing activities and providing additional protection to cultural resources.

### **From Recreation Management**

The designation of 2,900,298 acres as open to OHV use could potentially affect 5,800 eligible sites. Impacts would include partial or total destruction of properties, the opening of previously inaccessible areas, and casual collection of artifacts and surface disturbance of sites by spectators. Zone with concentrations of eligible sites which would be particularly vulnerable to OHV-related impacts include: the Newberry Mountains, the Arrow Canyon Range, the Virgin Mountains, the Virgin River, the Meadow Valley Mountains, Meadow Valley Wash, the McCullough Mountains, and portions of Eldorado Valley. Significant adverse impacts could occur to cultural resources under this alternative.



### **From Rights-of-Way Management**

Providing public lands in Clark County for use as transmission systems has the potential to affect 6,000 eligible sites, creating a significant impact on cultural resources. The designated 61 miles of utility corridors in Nye County have the potential to affect 100 eligible sites, significantly impacting cultural resources.

### **From Wilderness Management**

Management of Wilderness Study Areas would provide positive affects to cultural resources by prohibiting new access roads and limiting lands, minerals, and recreation uses.

### **From Minerals Management**

Encouragement of fluid, locateable, saleable, and non-energy leaseable mineral development in the planning area has the potential to affect 7,500 eligible sites. The effects could include total disturbance of properties during seismic testing, total destruction of sites from open pit mining, the opening of previously inaccessible areas, and the direct and purposeful mining of sites under the concept of exploration. The minerals program has the potential for significant impacts to cultural resources.

## **LANDS MANAGEMENT**

### **From Lands Management**

Disposal Areas - The *Clark Count MFP* and the *Esmeralda-Southern Nye RMP* identify approximately 163,673 acres of public land in the Las Vegas Valley and outlying communities for discretionary disposal through the most appropriate authority. Disposals would include, but are not limited to community expansion, commercial, industrial, and residential uses, and where appropriate, agricultural use. Of the lands identified, 101,128 acres (9,300 of these acres are to be sold under P.L. 96-586 and are non-discretionary disposal) are located in the Las Vegas Valley where a fragmented growth pattern and an easement identification problem on approximately 23,000 acres of these lands have developed. The remaining disposal acreage consists of 47,200 acres located in Nye County and 15,280 acres in the outlying communities around Las Vegas in Clark County.

In Clark County, approximately 148,434 acres of land are identified for sale through special legislative actions. Public Law 96-586 (*Santini-Burton Act*) provided for the orderly disposal of approximately 9,300 acres of public land within a 182 square mile area in the Las Vegas Valley. These lands are not classified or segregated from the public land laws or the mining laws and can be disposed of by authorities other than the Santini-Burton sale authority; priority is to be given to sale. To date, approximately 2,584 acres of public land have been sold through the *Santini-Burton* legislation. Not all the lands covered by this legislation have or would continue to be disposed of under the sale authority. Some of the lands included in the sale area have been authorized for flood control purposes, highway purposes, and R&PP patent or lease. Upon termination of the *Santini-Burton* legislation, the remaining Federal lands would be added to the discretionary disposal pool.

Approximately 154,373 acres of public land would continue to be available for R&PP leases, unless otherwise segregated against, to enhance communities by providing lands at less than fair market value. Leases could be authorized for schools, libraries, community centers, parks, public golf courses, fire stations, churches, community buildings, law enforcement facilities, correctional institutions and water and sewage treatment facilities.

Lease Areas - Under this alternative, approximately 3,140,759 acres of public land would continue to be available for land use leases and permits through Section 302 of FLPMA. Unauthorized use of public lands could be resolved by this mechanism, with rental collected at fair market value. The general public would have the



opportunity to acquire use of public lands, additional revenues generated for the Federal government, and multiple-use management goals met through lease arrangements.

Approximately 3,140,759 acres of public lands would continue to be available for airport purposes on an as-needed basis. Within the Stateline Resource Area, both Clark and Nye Counties have applications on file for airport purposes, identifying approximately 582 acres.

Classifications - Approximately 175 acres of public lands would continue to be encumbered by old small tract classifications. The *Small Tract Act* was repealed by the passage of FLPMA in 1976. Before the lands encumbered by this type of classification can be leased or disposed of, the small tract classifications must be vacated and the lands opened to entry under the public land laws.

Segregations - Under this alternative, approximately 56,164 acres of public land would continue to be segregated for various lands actions. Some of these segregations may terminate on their own; others may be terminated by another lands action. In all cases, an opening order must be published before the lands involved can be returned to their former status under multiple-use management.

Withdrawals - Approximately 18,250 acres of public land within the planning area would continue to be encumbered by Federal Energy Regulatory Commission (FERC) withdrawals. The filing of an application for a preliminary permit with FERC automatically segregates the lands from the public land laws, pending the authorization of a licensed hydropower project. Applications for public lands are evaluated for land use, environmental issues, and authorization of rights-of-way by BLM. FERC is the authorizing agency for licensing of the project and has the responsibility for vacating rewithdrawals on public lands which are not going to be licensed for proposed projects. To date, approximately 17,756 acres of public land of record have been permitted for actual projects. Historically, FERC has not always coordinated with BLM; consequently, it is not known how much of the remaining withdrawn acreage of record is actually needed for projects or whether some of the withdrawals have been vacated.

#### **From Rights-of-Way Management**

Public lands would continue to be encumbered by the issuance of rights-of-way, establishing valid existing rights which would have to be considered by prospective purchasers. In some cases, this encumbrance could have a beneficial impact if the right-of-way would serve the future needs of the prospective purchaser. Some rights-of-way could preclude disposal, if the right-of-way is in conflict with the potential future use of the lands.

#### **From Minerals Management**

From 4,208,846 to 4,496,342 acres of public land would continue to remain open for mineral entry and development for locatable, leasable, and saleable minerals unless segregated from entry, withdrawn or classified for other purposes. Mineral entry and development encumbers the land and lowers the appraisal values. High potential mineral value could also preclude disposal of the lands. Other significant impacts to the lands disposal program are so-called "nuisance" claims, filed on lands known for their high sale value rather than mineral value. In cases where the mining claimant has refused to relinquish the claims, the individual or agency applying for the land disposal has been forced to buy out the claimant. Processing validity tests on the claims, an expensive and time-consuming process, is the only alternative for ridding sale parcels of "nuisance" claims.



## **NATURAL AREAS MANAGEMENT**

### **From Natural Area Management**

The Virgin Mountain, Sunrise Mountain, and Pine Creek Canyon natural areas, encompassing 16,800 acres, would continue to be managed as Instant Study Areas for possible wilderness designation. Until Congress makes a decision regarding their status, management of these areas would continue in accordance with the non-impairment criteria which provides an increased level of protection to all resources. The 150 acre Pine Creek Canyon Research Natural Area would also continue to be withdrawn from operation of the 1872 *Mining Law*, the public land laws, further protecting all resources from impacts related to mining, right-of-way development, and most other surface-disturbing activities.

## **RECREATION MANAGEMENT**

### **From Fish and Wildlife Habitat Management**

Opportunities for OHV events would be lost on approximately 996,400 acres of public land within the Resource Area because of restrictions imposed by Section 7 consultation with the U.S. Fish and Wildlife Service for the protection of desert tortoise habitat. These lands are primarily located in Category I and II desert tortoise habitat. Restrictions would directly affect five motorcycle events in the Piute Valley, one motorcycle event in the Mormon Mesa/Moapa area, and one motorcycle and one buggy event in the Goodsprings Valley area. An estimated 2,000 participants (racers, pit and chase crews) and 2,400 spectators are anticipated to be impacted annually. This loss of opportunity would displace users to other areas such as the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. Use in the Nelson Hills and Nellis Dunes is anticipated to increase by 50 percent; use in the Jean/Roach Dry Lake area is projected to increase by 25 percent. Use in the Eldorado Valley area is expected to remain constant. Under the current situation, 10 to 15 percent of current special recreation permit applications would either be denied or cancelled due to time and resource constraints associated with protection of the desert tortoise.

Recreational uses such as OHV touring and free-play, hunting, camping, picnicking, and other recreational competitive and commercial activities could be restricted, eliminated, or entirely displaced to other locations due to motorized vehicle closures and limitations designed to protect desert tortoise habitat. Motorized vehicle closures or limitations in Category I and II desert tortoise habitat could directly affect 10 percent of all visitor use in the Resource Area (or approximately 85,000 visitor days). Restrictions on OHV courses which limit these courses to within 1/4 mile of water sources could require avoidance or course realignment.

The construction of reservoirs, spring developments, riparian fencing, and bighorn and upland game guzzlers might affect opportunities for semi-primitive nonmotorized recreation, depending on locations and proposed access. These same developments could increase opportunities for hunting and wildlife viewing and photography. Increased development of springs and other water sources could increase hunting opportunities by 10 percent or to a total of 36,000 visitor days per year.

### **From Livestock Grazing Management**

Road construction for range improvements would open some previously inaccessible areas for motorized recreation. Increased motorized recreation opportunities could decrease the amount of semi-primitive nonmotorized and semi-primitive motorized recreation opportunities and lower the quality of the recreational experience for those who enjoy solitude. New access to remote areas would increase OHV activity and cause additional surface disturbance. Semi-primitive motorized recreation opportunities could be lost closer to urban areas, as visitation and development increases. Semi-primitive motorized recreation opportunities could be lost to roaded natural recreation opportunities.



The percolation of water into caves could be affected by surface disturbance caused by road and reservoir construction near or over cave and karst resources. Access resulting from rangeland improvements could facilitate the vandalism or over-use of fragile caves, lowering their integrity and information potential.

#### **From Cultural Resource Management**

The development of interpretive signs, trails, and brochures at Willow Springs, the Old Spanish Trail/Mormon Road, and at Gypsum Cave would enhance recreation opportunities and public understanding of significant cultural values. Additional opportunities for "Adventures in the Past" type programs would be available through the preservation of line shacks, mining cabins, and other historic structures.

#### **From Lands Actions**

Should all 128,401 acres of land involved in the Eldorado Valley Land transfer area be disposed of, a significant loss of recreation opportunities could occur. Six OHV events, two model airplane events, a commercial ultralight plane operator, and thousands of OHV, camping, ultralight, light aircraft, model rocket, hunting, and other dispersed recreational events occur annually in this area. Transfer of those lands could displace or eliminate up to 50,000 visitor days per year.

Disposal of lands under the *R&PP Act* would enhance Rural and Modern Urban recreation opportunities in the Las Vegas Valley, Laughlin, Mesquite, Pahrump, and Boulder City areas.

#### **From Recreation Management**

The population growth of southern Nevada would continue to increase the demand for recreational opportunities in the SRA. This demand would primarily affect lands surrounding populations centers such as Las Vegas, Laughlin, Mesquite, Boulder City, and Pahrump. Outlying areas would also receive greater demand from people seeking solitude from urbanization. Visitation is anticipated to increase by 10 percent or 144,810 visits, within the next decade (total visitor days per year would equal approximately 1,592,910). This increase will occur whether BLM provides additional opportunities or not.

Increased recreational use in Red Rock Canyon NCA, stimulated by the RRCNCA recent legislation and the growing population in southern Nevada, would result in additional visitation, vandalism, and loss of quality recreational experiences. Greater conflicts between users would occur, as NCA visitation becomes more national and international in scope. Proposed new facilities and increased visitor services and patrols would ease some of the conflicts and help to mitigate the loss of recreational quality. These facilities may still become overcrowded, as visitor days increase by 25 percent or 200,000 visits, within the next decade (total visitor days per year would equal approximately 800,000).

Under the No Action Alternative, approximately 47 percent (1,725,430 acres) of the resource area would be designated as open for unrestricted OHV use, 51 percent (1,872,275 acres) would be designated as limited to existing roads and trails, 2 percent (73,423 acres) would be limited to designated roads and trails, and less than 1 percent (3,308 acres) would be designated as closed to all motorized uses.

Conflicts would continue to occur within the Las Vegas Valley, Sunrise Mountain, the Apex area, the Nellis Dunes, and the eastern boundary of Red Rock Canyon NCA. Recreational shooters, equestrian riders, hikers, bicyclists, OHV recreationists, and other passive recreation users of the public land would compete for use of these areas. Conflicts would continue with shooting that could cause user displacement, loss of solitude or a quality recreation experience, and in some instances fatalities or wounding by careless shooters. The Sunrise Mountain would continue to receive large amounts of trash, broken glass, and bullet casings from recreational shooters.



Since recreational facilities would not be developed in the SRA under this alternative, existing heavy use areas such as Keyhole Canyon, Christmas Tree Pass, Whitney Pockets, Color Rock Quarry, portions of Red Rock Canyon, and Arrow Canyon could be further abused by excessive off-road use. Heavy use in sensitive locations (such as tortoise habitat and archeological sites) and overcrowding would also occur.

The resource integrity and quality of area caves for recreational and educational opportunities could be lowered by vandalism or by long term use. Improved access or increased public knowledge of cave locations would accelerate such deterioration.

#### **From Rights-of-Way Management**

Should new rights-of-way corridors be developed, impacts could affect semi-primitive nonmotorized and semi-primitive motorized recreation opportunities throughout the SRA. Specific areas anticipated to be impacted would include the Arrow Range, the Las Vegas Range, the Muddy Mountains, and the North and South McCullough Ranges. Depending on the location of proposed rights-of-way, impacts could occur to cave resources by increasing access to previously inaccessible caves. Specific projects could impact the surface of caves and prevent percolation of water into cave systems. Increased access could increase opportunities for hunting, camping, and OHV touring, racing, and free-play.

#### **From Wilderness Management**

Should Congress designate wilderness in southern Nevada, 610,209 acres of public land would be made available for primitive recreation opportunities. Designation of these same areas would result in the loss of motorized recreational access to these lands.

#### **From Minerals Management**

The percolation of water into caves could be affected by surface disturbance caused by geophysical exploration, mining, and road construction near or over cave and karst resources. The resource integrity and quality of area caves for recreational and educational opportunities could be lowered by vandalism or by long-term use of fragile cave resources brought about by improved access or by increased public knowledge of cave locations.

Current land use restrictions do not protect cave resources (except those in Red Rock Canyon NCA) in the planning area from surface-disturbing impacts caused by oil and gas activity or mineral exploration and development. Caverns and passages could be filled with silt, mined for gypsum, or opened to the surface, with an attendant loss of the cave resource.

A 20 percent loss of semi-primitive nonmotorized recreation opportunities could occur from locatable, leasable, and salable mineral activities, over the next 10 years. This would cause an equal percentage of land and acres to change to semi-primitive motorized recreation opportunities. These activities would increase motorized access, visitation numbers, decreasing the qualities of naturalness and solitude. Opportunities for hiking, camping, equestrian riding, and other low impact types of recreation would be decreased.

No impacts are anticipated to occur to recreation opportunities in the Red Rock Canyon NCA because the area is currently legislatively withdrawn from mineral entry.



## **RIGHTS-OF-WAY MANAGEMENT**

### **From Rights-of-Way Management**

Utility lines and related facilities are addressed through the right-of-way process on a case-by-case basis, generally to the satisfaction of the applicant. Under this alternative, utility lines would continue to randomly proliferate, mainly in Clark County, rendering some public lands undisposible. Such proliferation could also cause potential safety concerns, negative visual impacts to other lands, and lower appraisal values. The *Esmeralda-Southern Nye* RMP designates approximately 61 miles of utility corridors which includes existing facilities and/or rights-of-way within Nye County. The corridors were identified to encompass existing rights-of-way and avoid sensitive resources, benefitting social and environmental values by attempting to confine similar uses to a specified area. These corridors would also provide beneficial economic impacts to prospective right-of-way holders, allowing the use of existing data to facilitate processing. The location and size of the corridors could negatively impact uses not compatible with the proposed use.

Administrative impacts related to communication sites would continue to impact the lands program. The construction of new facilities without regard for future long-term needs, scattered facilities, unauthorized users, poor maintenance of common use facilities, frequency incompatibility, and disregard for public safety on established sites have forced BLM to become actively involved with users in management efforts to resolve existing and anticipated conflicts at multiple-user sites.

Upon request from Nevada Department of Transportation, material site rights-of-way would continue to be authorized at random locations throughout the resource area. A total of 181 material sites rights-of-way, comprising approximately 15,842 acres, are currently authorized on public lands in SRA. Such rights-of-way encumber lands potentially valuable for disposal or lease.

## **WILDERNESS MANAGEMENT**

### **From Wilderness Management**

All wilderness study areas would be managed under the BLM's *Interim Management Policy* which provides guidelines to protect wilderness values. Wilderness-related impacts have been addressed in three wilderness environmental impact statements, on file in the Stateline Resource Area.

## **MINERALS MANAGEMENT**

### **From Lands Management**

Assuming the saleable mineral estate is sold along with the surface estate, disposal of approximately 108,107 acres of public lands within the Las Vegas Valley would significantly decrease the availability of both silt to the landscape industry and sand and gravel to the building industry. Construction of housing and other structures upon these lands would significantly increase the demand for silt, sand, and gravel, which would already be in short supply within the Las Vegas Valley. Existing classifications, withdrawals, and segregations (CW&S), which total 166 and affect 434,055.48 acres, limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal.



### **From Natural Areas Management**

With passage of the FLPMA in 1976, three designated Natural Areas became Instant Study Areas, with the same status as Wilderness Study Areas. Pending a decision by Congress as to the suitability of these lands for inclusion in the wilderness system, no unnecessary or undue degradation of these lands will be permitted. These three areas comprise approximately 16,950 acres.

### **From Recreation Management**

Hidden Valley in the south Muddy Mountains is designated as closed to all motorized vehicle use by individuals or groups. This designation restricts access to this area for mineral related activities. This area comprises approximately 3,308 acres.

### **From Rights-of-Way Management**

Lands affected by material site rights-of-way are effectively withdrawn from entry and location under the mining law. This limits the availability of public lands for mining claim location. Material site rights-of-way within the Stateline Resource Area total 181 and comprise approximately 15,842 acres.

### **From Wilderness Management**

Twenty Wilderness Study Areas have been inventoried for inclusion in the wilderness system. Pending a decision by Congress as to the suitability of these lands for this purpose, no unnecessary or undue degradation of these lands will be permitted. These 20 areas comprise approximately 627,144 acres with 175,540 acres recommended suitable and 451,604 acres recommended unsuitable.

### **From Minerals Management**

Eighteen existing withdrawals, affecting 918,429 acres, limit the availability of nonpublic Federal lands for mining claim location, mineral leasing, and material disposal. Mineral material disposal may not be made from public lands which contain mining claims that have not been cancelled. This limits the availability of public lands for the issuance of material sales contracts and free use permits. All lands within the Las Vegas Valley Subunit are closed to the issuance of material sales contracts while open to community pit sales and the issuance of free use permits. All lands within the Las Vegas Valley Subunit are closed to the issuance of sand and gravel leases, affecting approximately 1580 acres of existing leases on split estate lands where the surface estate is in private ownership and the mineral estate is in Federal ownership.

## **ACQUISITIONS MANAGEMENT**

### **From Acquisitions Management**

The *Red Rock Canyon Recreation Lands Master Plan* (USDI, BLM 1976) identifies potential acquisition of the non-federal lands within the Red Rock Canyon NCA. Where private lands are available and the current owner willing to sell, approximately 2,065 acres of land could be restored to multiple-use management.



## **FIRE MANAGEMENT**

### **From Air, Soils, and Water Management**

Fire suppression activities within the Las Vegas Valley Non-Attainment Area would continue to be managed to keep fire size to a maximum of 10 acres for 90 percent of the time, in order to minimize negative impacts to air quality, primarily particulates and haze. The use of fire suppression foams, penetrants, and retardants would continue to be prohibited in the immediate area surrounding water sources. In order to reduce other adverse impacts to soil and water resources from fire suppression activities, mitigation measures (i.e. requiring a fire line in a critical erosion area to be constructed using hand tools only) are developed on a case-by-case basis utilizing resource advisors in coordination with fire management specialists.

Prescribed burning for resource enhancement purposes would continue to be available on a case-by-case basis throughout the planning area. Individual fire burn plans and EAs would be prepared prior to authorizing any prescribed burn.

### **From Other Resource Management Programs**

Fire suppression activities throughout the planning area would continue to be managed to keep fire size to a maximum of 10 acres, 100 acres, or 500 acres, depending on the pre-attack management zone (see Map 2-1), 90 percent of the time, in order to minimize negative impacts to resources. The use of fire suppression foams, penetrants, and retardants would continue to be prohibited within 100 yards of riparian areas. All retardants used in fire suppression activities would continue to be required to dissipate within 14 days of use to reduce visual impacts. In order to reduce other adverse impacts to resources from fire suppression activities, mitigation measures (i.e. requiring a fire line in a sensitive vegetation area to be constructed using hand tools only) are developed on a case-by-case basis utilizing resource advisors in coordination with fire management specialists.

Prescribed burning for resource enhancement purposes would continue to be available on a case-by-case basis throughout the planning area. Individual fire burn plans and EAs would be prepared prior to authorizing any prescribed burn.

### **From Wilderness Management**

Fire suppression activities in wilderness study areas would continue to be managed to keep fire size to a maximum of 10 acres, 100 acres, or 500 acres, depending on the pre-attack management zone (see Map 2-1), for 90 percent of the time, in order to minimize negative impacts to resources. All fire suppression activities must be conducted so as to comply with the non-impairment criteria in the IMP.

Prescribed burning for resource enhancement purposes would continue to be available on a case-by-case basis within WSAs, subject to the non-impairment criteria; individual fire burn plans and EAs would be prepared prior to authorizing any prescribed burn.

### **From Fire Management**

All wildfires will continue to be suppressed in accordance with Department of Interior policy. When multiple fires are burning and in response to limited fire fighting resources, pre-attack fire management objectives and zones have been established; fire suppression activities throughout the planning area would continue to be managed to keep fire size to a maximum of 10 acres, 100 acres, or 500 acres, depending on the pre-attack management zone (see Map 2-1), 90 percent of time in order to minimize negative impacts to resources.



Prescribed burning for fire fuels hazard reduction purposes would continue to be available on a case-by-case basis throughout the planning area. Individual fire burn plans and EAs would be prepared prior to authorizing any prescribed burn.

## **SPECIAL MANAGEMENT AREAS**

### **From Special Management Areas**

There would continue to be no designated ACECs in the planning area. If critical environmental concerns are present, they would not receive the protection afforded as a result of the special management attention directed towards ACECs.

## **SOCIO-ECONOMIC VALUES**

### **From Livestock Grazing Management**

While it is intended that this alternative would introduce no changes in the administration of livestock grazing on the public lands and that grazing would continue at its present level, Section 7 consultations with the U.S. Fish and Wildlife Service necessitate that management actions be taken to protect and ensure the recovery of the desert tortoise. These actions will result in adverse economic impacts on affected operators. While the economic effects of forage losses may be significant to individual ranchers, it would not be a significant impact to the local economy.

Twenty allotments are actively grazed in the planning area by 37 permittees; 16,601 AUMs are removed by domestic livestock. Two operators (in four allotments) have recently sold their base property and have relinquished grazing privileges of 13,687 AUMs. Two additional operators have indicated that they will not apply for grazing privileges next year or reapply for a grazing permit after their current permits expire.

Prescriptions to protect desert tortoise habitat will withdraw an additional 5,124 AUMs from livestock grazing, reducing the number of available AUMs to 11,477. Of the 37 active permittees in the area, six may lose all grazing privileges unless they are willing to change their season-of-use. These six operators presently graze during the spring, the period subject to protective measures for the tortoise. Ten operators graze a split-season and will have to remove their livestock from the public rangelands for half of their current grazing period. All but six of the remaining permittees will lose 29 percent of their grazing privileges because of the requirement to remove livestock during the March 1-June 15 period.

The majority of the permittees are maintaining only a financially marginal operation with economic viability only sufficient to stay in operation. Very few have private lands on which to graze their livestock. The loss of even a portion of their grazing privileges may force them out of business, as the cost of buying hay or feed would be prohibitive. Only four allotments provide a livelihood for the operator. All other allotments either produce supplemental income or are of an avocational or "hobby" variety. Those permittees who engage in livestock operations for pleasure and who do not depend on their operations for income will be affected, but will probably continue their operations to whatever degree that they are able for the pleasure which they derive from the lifestyle.

The loss of a total of 5,124 AUMs represents a reduction of \$128,000 in the capital value of ranch assets. The direct loss in gross income (\$29.50 per AUM) is estimated at \$151,160. Net income (estimated at \$4.77 per AUM) would be directly reduced by an estimated \$24,441 on an annual basis. While this relatively small economic impact would have no significance to the regional economy, marginal, small-scale ranch operators who may be affected could be forced to leave the livestock business. Most, if not all, of these marginal



operators already supplement their ranch operations with outside income and employment. No significant impacts to the overall economy (total income) of the agricultural community in the planning area would be anticipated although the economic status of individual operators could be adversely affected.

#### **From Lands Management**

A total of 163,673 acres are identified for discretionary disposal under this alternative. While it is impossible to predict the number of acres that might successfully be disposed of through sales, some reasonable conclusions regarding values can be drawn.

Based on estimated fair market value applied to potential highest and best use, and assuming that land values would not be affected by the disposal of all or a portion of this acreage, these lands are valued at a total of \$3.4 billion. Assuming assessed valuation at 35 percent of full cash value, these lands would add a total of \$1.2 billion assessed valuation of the two counties and provide an estimated tax revenue of \$23.6 million. On a weighted average per acre basis, average fair market value per acre is estimated at \$20,500; assessed value per acre is estimated at \$7,175, yielding an estimated tax revenue of \$143.66 per acre.

The successful disposal of a large portion of these public lands over the 20-year period could alter the tax base of the two counties to a significant degree. In some cases, local governments could suffer adverse financial impacts from the transfer of these lands to private ownership, should the tax revenues fall short of the cost of providing public services. The provision of these services to new areas is likely to require greater capital outlay and to be less cost efficient than those contained within existing communities.

#### **From Rights-of-Way Management**

This alternative would result in continued high up-front planning costs and lengthy application processing times for utility companies seeking rights-of-ways on public lands. Once authorizations were obtained, the construction and operating costs for future rights-of-ways would be lower since facilities would not be limited to designated corridors.

The value of private lands near future transmission lines could decrease throughout the planning area since such lines are perceived to affect the scenic qualities of adjacent lands.

#### **From Minerals Management**

Leasing or other disposal of mineral and mineral materials including sand and gravel could impact the surface owner of the land to varying degrees when BLM administers the minerals. If the surface is substantially altered, the owner could be forced to change uses for the surface property. Such changes could result in short and long-term economic effects to the surface owner. In some instances, the surface owner could suffer significant financial impacts due to delays in the development of his property during extended mineral extraction.



## **ALTERNATIVE A**

Impacts were analyzed for each of the following resources or management programs: air, soils, water, vegetation, riparian resources, visual resources, fish and wildlife habitat, forestry, livestock grazing management, wild horses and burros, cultural resources, lands, natural areas, recreation management, wild and scenic rivers, rights-of-way, wilderness, minerals, acquisitions, fire management, special management areas, and socio-economic values. Only those impacts determined to be significant are included in the following sections.

### **AIR RESOURCE MANAGEMENT**

#### **From Lands Management**

The impacts to air resources from lands actions under this alternative would be the same as those analyzed for the No Action Alternative.

#### **From Recreation Management**

The impacts to air resources from recreation management under this alternative would be the same as those identified for the No Action Alternative.

#### **From Minerals Management**

The impacts to air resources from minerals exploration and development activities would be the same as those identified for the No Action Alternative.

### **SOILS MANAGEMENT**

Soil loss figures are based on the total acreage of disturbance that could reasonably be estimated. The acreage of disturbance for each impacting activity, along with the annual soil losses per acre (above that which would naturally occur), are based on soil survey information, literature review, consultation, and field observations. These figures are intended to provide a basis for comparison of impacts and alternatives. Actual soil losses and acreage disturbed could vary from the predicted amounts.

#### **From Livestock Grazing Management**

The impacts to soils resources from livestock grazing management would be the same as those analyzed for the No Action Alternative.

#### **From Recreation Management**

Soil surface disturbance, both on existing roads/trails and off-road, would leave soils vulnerable to both water and wind erosion. Competitive OHV use has the potential to significantly impact the soil resource, particularly if events are conducted in areas with highly susceptible soils and/or soils exhibiting a critical erosion condition. Approximately 90,550 acres of highly susceptible soils and 96,994 acres of critical condition are found within the planning area. From an anticipated 9,377 acres of disturbed soils, 6.5 to 27 tons of soils per acre per year could be expected to be lost as a result of OHV activities (total average annual loss of 157,065 tons). A majority of the critical erosion condition soils (55,918 acres, 58 percent) and those soils with a high susceptibility to erosion (90,550 acres, 100 percent) are located within the Colorado River drainage system. All of the Nellis Dunes and



those portions of Nelson Hills/Keyhole Canyon and Eldorado Valley within the Colorado River drainage contain no soils in a critical erosion condition, soils highly susceptible to erosion or saline soils. The Nellis Dunes (9,180 acres) would be open to all OHV use and portions of Jean Lake/Roach Lake (10,231 acres), Nelson Hills/Keyhole Canyon (4,117 acres) and Eldorado Valley (3,445 acres) SRMAs would be open to OHV racing. Although Jean Lake/Roach Lake area does not have soils in a critical erosion condition or highly susceptible to erosion, it does contain 1,094 acres of saline soils which comprise 11 percent of the total area. OHV racing within the Colorado River drainage would be limited to areas with minimal erosion potential. The impacts to soils would be less than the No Action Alternative, particularly if the saline soils within the Jean Lake/Roach Lake SRMA are avoided. A total of 3,304 acres are anticipated to be disturbed within the 66,086 acres of critical condition and/or highly susceptible soils of the Colorado River drainage system, resulting in an annual average loss of 55,347 tons.

Approximately 60,63 acres of saline soils are contained within the Colorado River drainage of which 3,032 acres would be impacted by OHV use. It is estimated that a soil loss of 7 to 15 tons per acre per year could be expected, creating an average annual loss of 33,348 tons. Current data indicate that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although exact percentages of salt contributions from the public lands (including contributions from OHV use) within SRA's portion of the drainage are not known at this time, salt loading would be expected to be reduced under this alternative.

#### **From Rights-of-Way Management**

Significant impacts to soils could occur throughout the planning area, depending on where and for what purpose a right-of-way is issued. Within areas containing soils with a high erosion susceptibility, critical erosion condition and/or saline soils, significant adverse impacts can be expected unless proper mitigation measures are adopted. The low precipitation and resultant arid vegetation communities of the SRA are not readily amenable to standard rehabilitation efforts, leaving the soil in a prolonged vulnerable state with the potential for significant wind and water erosion. Under this alternative, 590 miles of rights-of-way corridors would be designated within the planning area. These corridors would contain 9,985 acres of soils in a critical erosion condition, 16,662 acres of soils highly susceptible to wind and water erosion, and 107,647 acres of saline soils. Of these totals, 2,900 acres of soils in a critical erosion condition, 16,662 acres of highly susceptible soils, and 59,465 acres of saline soils are located within the Colorado River drainage system. For the purpose of alternatives comparison, pipeline/powerline rights-of-way were used here as an example of expected soil loss. It can be reasonably anticipated that 6.5 to 27 tons per acre per year would be lost from soil disturbance due to pipeline/powerline construction. Construction on a total of 266 acres would result in an average annual loss of 4,463 tons from areas containing critical condition soils and highly susceptible soils. Within the Colorado River drainage system, an average of 3,277 tons of soils could be lost annually from 196 acres of disturbed ground. An average annual loss of 6,541 tons of saline soils could be expected to be lost from 595 acres of disturbance, further contributing to the Colorado River's salinity problem.

#### **From Minerals Management**

Impacts to the soils from mineral exploration and development are both temporary and long term. Fluid minerals activities could create minor impacts, primarily associated with road travel and drill pad construction. Little activity of this type occurs in the SRA and no increases are anticipated. Locatable mineral, mineral material sales, and non-energy leasable activities could result in significant soil erosion problems. Areas with a critical erosion condition (96,994 acres), high erosion susceptibility (90,550 acres), and/or saline soils (281,538 acres) would be particularly vulnerable. Soil disturbance could result from both mineral exploration and development activities, including access and haul road construction, stockpiling of topsoil, and pit construction. With proper mitigation and reclamation, mineral activities would adversely impact the soils in the short term. Mineral development could be expected to be of a long-term nature. The low precipitation and resultant arid vegetation communities of the planning area are not readily amenable to standard rehabilitation efforts. Even after



abandonment of mineral developments, soil erosion may continue to be a problem. Under this alternative, 142,517 acres of soils in a critical condition and those highly susceptible to erosion would be open to locatable mineral entry, 125,766 acres to mineral sales and 156,208 acres to non-energy leasables. As a result of soil disturbance from these activities, a soil loss of 6.5 to 27 tons per acre per year for an average total of 11,936 tons from locatable mineral entry, 10,533 tons from mineral sales and 13,082 tons from non-energy leasables could be expected from lands open to such activity. A majority of this soil loss would come from within the Colorado River drainage system (9,710 tons from locatable mineral entry, 10,773 tons from mineral sales and 8,769 tons from non-energy leasables lands). Also within this drainage system are found 170,711 acres of saline soils from which an average annual soil loss of 7,975 tons from locatable mineral entry, 6,152 tons from mineral sales and 7,975 tons from non-energy leasables lands can be anticipated, further contributing to the Colorado River's existing salinity problem.

## **WATER RESOURCE MANAGEMENT**

### **From Livestock Grazing Management**

The impacts to water resources from livestock grazing management would be the same as those analyzed for the No Action Alternative.

### **From Lands Management**

The impacts to water resources from lands actions would be the same as those identified for the No Action Alternative.

### **From Recreation Management**

An impact on surface water could be anticipated as a result of soils erosion generated by OHV activities. Water resources would be most impacted by increased erosional sedimentation. An annual soil loss of 55,347 tons could occur from 66,086 acres of critical condition and highly susceptible soil areas within the Colorado River drainage system (4,151 tons of sediment delivered to stream channels). Within this drainage, 33,348 tons of soils could be lost annually from 60,632 acres of saline soils (2,501 tons of sediment delivered to stream channels).

### **From Rights-of-Way Management**

The issuance of rights-of-way could impact water resources throughout the planning area as a result of increased erosional sedimentation. For purposes of alternative comparison, pipeline/powerline rights-of-way were used as an example of expected soil loss. An annual soil loss of 4,463 tons could be anticipated from areas with critical and/or highly susceptible soils (335 tons of sediment delivered to stream channels). Of this total, 3,277 tons of soil loss would occur within the Colorado River drainage system (246 tons of sediment delivered to stream channels). Also within this drainage, 6,541 tons of soil loss could be expected from areas containing saline soils, further contributing to salt loading of the Colorado River (491 tons of sediment delivered to stream channels).

### **From Minerals Management**

An impact on surface water could be expected as a result of minerals activities. Sedimentation from erosional processes would most adversely affect water resources. Under this alternative an annual sediment transport of 895 tons from locatable mineral entry, 790 tons from mineral sales, and 981 tons from non-energy leasables could be projected from lands open to such activity. A majority of this sediment would come from within the Colorado River drainage system (728 tons from locatable mineral entry, 658 tons from mineral sales, and 808 tons from non-energy leasables lands). An estimated 598 tons of saline sediment would also be generated from



locatable mineral entry, 461 tons from mineral sales, and 598 tons from non-energy leasables lands within this drainage, further contributing to the Colorado Rivers existing salinity problem.

## **VEGETATION MANAGEMENT**

### **From Air, Soils, and Water Management**

Actions taken to maintain or improve air, soils, and water resources would result in beneficial impacts to vegetation. These actions are generally mitigation measures developed on a case-by-case basis or restrictions placed on other uses to prevent damage to air, soil or water resources.

### **From Vegetation Management**

Managing for desired plant communities would have a net positive impact on vegetation. Efforts to rehabilitate disturbed areas, where feasible, would be undertaken in accordance with the fire rehabilitation plan and project specific mitigation measures developed in the NEPA process. Only native species would be allowed in rehabilitation efforts, in order to manage toward potential natural communities and to provide optimum native species diversity.

Vegetation would progress very slowly toward the desired plant community or Potential Natural Community. An upward trend representing a progression from one condition class to a higher class (i.e. from mid seral stage to late seral stage) would be accomplished in less than 5 percent of the planning area per year.

Threatened, endangered, and candidate plant species would be protected by prohibiting construction, mining, and cross-country OHV use where these species are known to occur on public lands.

### **From Livestock Grazing Management**

Vegetation resources on approximately 1,075,880 acres of public lands would not be impacted by livestock grazing. Livestock grazing impacts to vegetation would continue to occur on approximately 2,036,933 acres. Under the terms and conditions of the desert tortoise/livestock grazing Section 7 consultation, vegetation could be impacted by livestock grazing on approximately 1,389,000 acres during the period from June 15 through February 28 (or February 29). Specific impacts related to grazing for warm season species during the growing season would include removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor while immature plants would have greater difficulty in becoming established. Physical damage to both forage and non-forage species could result from livestock trampling. Impacts during the dormant period would further reduce vegetative cover and the amount of plant material available for litter. Grazing-related impacts would not occur from March 1 through June 14, benefiting cool season species. Above ground biomass would increase and plant reproductive capability maintained or improved. The vigor of mature plants would be maintained or improved. Increased numbers of immature plants would successfully be established, making more plant material available for litter. Grazing use would be keyed to specific utilization levels, depending on season of use, thus lessening the adverse impacts associated with livestock grazing. If grazing use exceeds these levels, livestock would be removed from the allotment, thus eliminating further adverse impacts to vegetation. In the long term, species diversity should increase and ecological condition approach or reach Potential Natural Community.

Vegetation would continue to be impacted by year-long livestock grazing on approximately 641,000 acres. Specific impacts related to this activity would include repeated removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor, while immature individuals would have difficulty in becoming established. Physical damage to both forage and non-forage species could result from trampling. Grazing use would be keyed to specific utilization levels, depending



on season of use, thus lessening the adverse impacts associated with year-long grazing. If grazing use exceeds these levels, livestock would be removed from the allotment. Further adverse impacts to vegetation from grazing would then be eliminated. In the long term, species diversity and ecological condition should be maintained. Deterioration of riparian vegetation would continue under present grazing management practices, until AMPs and riparian management plans are developed and implemented.

#### **From Wild Horse and Burro Management**

Wild horse and burro impacts to vegetation resources would be eliminated on the 10,000 acre Amargosa HMA. Wild horse and burro impacts to vegetation resources would continue to occur on 668,241 acres within six HMAs. Managing population levels at a thriving natural ecological balance would minimize or eliminate adverse impacts to vegetation resources.

#### **From Recreation Management**

Unrestricted casual OHV use on approximately 9,180 acres designated as open would continue to adversely impact vegetation by crushing and uprooting plants. The soils compaction which results from these activities would reduce water infiltration rates, decrease root growth, and prevent seedling establishment. The level of casual OHV use and attendant impacts varies considerably from location to location. Some areas with an open designation receive little or not casual OHV use; other areas receive heavy use. If OHV-related impacts are intermittent and do not uproot the plants, the vegetation resources will restore the physical damage over time. If the impacts are severe and repeated, however, vegetation could be entirely removed from some areas. In the long term, these areas would remain barren as a result of soils compaction, the lack of a seed source, and the aridity of the local environment.

Vegetation would benefit from a 92 percent decrease in the area available for competitive OHV use, as compared to the current situation. Adverse impacts to vegetation from competitive OHV use would, however, continue to occur in four SRMAs (Las Vegas Dunes, Jean Lake/Roach Lake, Eldorado Valley, and Nelson Hills) containing approximately 237,282 acres. The actual acreage expected to be impacted would be considerably less due to several factors including topographical constraints, seasonal restrictions, the use of established courses, and public demand, all of which influence the areas in which competitive OHV use occurs. Specific restrictions would be developed in SRMA plans, and individual race prescription plans. In addition to the four areas identified above, competitive OHV use would be allowed to continue on 324 miles of existing courses; impacts to vegetation resources would be minimal due to the established nature of these courses. Impacts from competitive OHV use would be the same as those identified above for repeated, heavy casual OHV use.

### **RIPARIAN MANAGEMENT**

#### **From Livestock Grazing Management**

Livestock grazing impacts within the planning area are concentrated in riparian areas. An estimated 70 percent of the spring-associated riparian areas are in a poor condition. The majority of riparian areas associated with perennial streams are also in a poor to fair condition. Livestock grazing within riparian areas prevents regeneration of desirable vegetative types, compacts soil, increases surface salinity, hinders plant growth, and can lower the water table by increasing soils erosion. Under current livestock grazing management, the riparian resource could be expected to continually deteriorate. Grazing would continue under current management guidance except that the Ash Meadows, Virgin River Bottom and Muddy River allotments would be closed. Approximately 2,835 acres along the Meadow Valley Wash and Virgin River would also be closed to livestock grazing, aiding in the protection of these riparian zones. The spring-associated riparian areas would continue to deteriorate as under the No Action Alternative. Of the 200 springs currently identified within the SRA, 80 are located within 10 active allotments (approximately 40 acres of riparian zone).



### **From Wild Horse and Burro Management**

Adverse impacts from wild horse and burros are also concentrated in riparian areas. An estimated 70 percent of the spring-associated riparian areas are in a poor condition. The majority of riparian areas associated with perennial streams are also in a poor to fair condition. Wild horse and burro grazing within riparian areas prevents regeneration of desirable vegetative types, compacts soil, increases surface salinity, hinders plant growth, and can lower the water table by increasing soils erosion. Under present management practices, the riparian resource could be expected to continually deteriorate. Of the 200 springs currently identified within the SRA, 58 are located within five Herd Management Areas (approximately 29 acres of riparian zone). The spring-associated riparian resource could be expected to be adversely impacted by the continued deterioration. Impacts would be expected to be somewhat less than under the No Action Alternative, primarily as a result of a reduction in animal numbers. Gold Butte HMA would receive the most significant change in its population with a decrease of 164 burros for an eventual total of 92 animals. This decrease would result in a significant reduction in the impacts to the 16 spring-associated riparian areas within this HMA.

### **From Riparian Management**

The impacts to riparian resources would be the same as those identified for the No Action Alternative.

## **VISUAL RESOURCE MANAGEMENT (VRM)**

### **From Visual Resource Management**

Impacts resulting from management of visual resources would be beneficial. Visual Resource Management Classes would be established throughout the planning area to provide standards and guide the development of mitigation measures to protect or enhance visual resources. Approximately 1,125,415 acres would be managed in accordance with VRM Class II guidelines; 1,867,657 acres in accordance with VRM Class III guidelines; and 678,055 acres in accordance with VRM Class IV guidelines. Mitigation measures designed to reduce or eliminate adverse impacts to visual resources would be developed and implemented on a case-by-case basis. These could include changing the color of structures to blend in with the natural color of the landscape, hiding structures or roads behind ridge lines, and by restricting motorized vehicle recreation and activity to either existing or designated roads and trails.

### **From Lands Management**

Urbanization of southern Nevada would cause a loss of the natural landscape in the Las Vegas Valley and the Mesquite, Pahrump, and Laughlin areas. Changes to the form, line, color, and texture of the existing landscape would be caused by new roads, housing developments, commercial development, recreation facilities, and schools.

### **From Recreation Management**

The impacts to visual resources from recreation management would be the same as those identified for the No Action Alternative.



## **FISH AND WILDLIFE HABITAT MANAGEMENT**

### **From Air, Soil, and Water Management**

Improved watershed conditions would lead to better productivity as well as increased forage and cover for wildlife. Erosion control, particularly in riparian areas, would encourage vegetative production and improve water quality. These areas would have enhanced value as wildlife habitat. There would be beneficial impacts to wildlife in localized areas, due to improvements in those aquatic and riparian habitats.

### **From Vegetation Management**

Managing for desired plant community or PNC would have beneficial impacts on desert tortoise. Greater plant species diversity would provide a variety of forage, increasing the potential for improved tortoise nutrition and decreasing the incidence of malnutrition and osteoporosis. More vigorous tortoise populations would result in increased survival and recruitment rates. Managing for PNC would create increased cover, affording hatchling and juvenile tortoises greater protection from predation and improved recruitment. If individual tortoises are healthier, their resistance to Upper Respiratory Tract Disease (URTD) would be expected to increase.

### **From Riparian Management**

Some wildlife species would benefit from riparian enhancement actions. A greater diversity and density of wildlife species would find habitat in these improved riparian areas. The density and distribution of wildlife species which depend upon riparian habitat may change over the long term. Riparian condition affects water temperature, silt load, instream flow, spring flow, water quality and salinity of aquatic habitat. Threatened and endangered fish species in the Virgin River could benefit from riparian habitat improvement.

### **From Fish and Wildlife Habitat Management**

Bighorn sheep and desert tortoise populations would benefit from the implementation of Habitat Management Plans and habitat enhancement projects. Approximately 9,243 acres of BLM inholdings in Ash Meadows NWR would be made available for withdrawal by the USFWS for inclusion in the refuge, facilitating refuge management and indirectly benefiting some species. The construction of upland game guzzlers would have a positive impact on upland game species.

All Federal actions which may affect a threatened or endangered species would continue to be submitted to the USFWS for Section 7 consultation, as required by law. All impacts and their level of significance would be identified at that time and appropriate mitigation measures developed. The BLM would then implement those reasonable and prudent measures necessary to ensure the continued existence of the species.

### **From Livestock Grazing Management**

Under this alternative, 2,036,933 acres would be open to livestock grazing, impacting desert tortoise habitat. Livestock grazing on those allotments which contain desert tortoise habitat would be constrained by stipulations developed through Section 7 consultation with the USFWS. Stipulations developed through Section 7 consultation would reduce negative impacts on desert tortoise but may not result in the recovery of the species.

Implementation of grazing Prescription 1 on approximately 1,389,000 acres would significantly benefit the desert tortoise by reducing the level of negative impacts. The elimination of grazing from March 1 to June 14 in Category I, II and "intensive" III tortoise habitat would reduce competition between livestock and tortoises for forage. The potential for trampling of tortoises during their most active period would be reduced. Over time, the quality of tortoise habitat is expected to improve on Category I, II and "intensive"



III habitat. Spring rest would be expected to increase desirable plant species diversity, composition, and ground cover. This would better provide for the nutritional needs of the desert tortoise, reducing the incidence of malnutrition. Better overall health of tortoises would increase resistance to URTD and result in more vigorous populations. Adult mortality would be expected to be reduced, the incidence of osteoporosis in younger animals would decrease, clutch size would increase, and annual recruitment should increase. Increased vegetative cover would reduce the rate of predation on hatchling and juvenile tortoises.

Implementation of grazing Prescription 2 would support the existing vegetative communities on "non-intensive" Category III tortoise habitat. Restricting the utilization of key forage species to 40 percent would sustain current habitat quality, with possible improvement. Tortoise populations would be maintained at current levels. Negative impacts to tortoise would continue.

Implementing the CRMP decisions for Crescent Peak Allotment would benefit wildlife. The possibility of disease transmission between livestock and bighorn sheep would be reduced. There would be beneficial impacts to desert tortoise on approximately 10,000 acres of high density desert tortoise habitat which would be excluded from all livestock grazing and OHV activities. Ample annual forage would be reserved for desert tortoise and utilization levels on perennial forage would be decreased. A greater amount and variety of forage would be provided for desert tortoise, lowering the incidence of malnutrition and osteoporosis. Improved vigor of tortoise populations would reduce the susceptibility of individuals to URTD. Reduced utilization levels would improve cover for hatchling and juvenile tortoises, susceptible to predation. This would lessen competition for forage and the likelihood of trampling of tortoises and burrows. Over the long term, increased recruitment rates would aid in the recovery of the tortoise. Upland game and non-game species would indirectly benefit from the improvement to range condition.

Negative impacts could be sustained by desert bighorn sheep as a result of domestic sheep grazing. Stray or trespass domestic sheep from Toquop Sheep Allotment could contact desert bighorn sheep in both the Virgin and Mormon Mountains. It is well documented that bighorn are extremely susceptible to the diseases of domestic livestock and mortality rates are generally high. Bluetongue, contagious ecthyma, chronic frontal sinusitis, scabies, as well as bacterial pneumonia are common diseases of livestock that have been identified as mortality factors in bighorn sheep (Jessup et al 1987).

Closure of the Virgin River Bottom Allotment and riparian areas in Meadow Valley Wash and Virgin River could have a significant beneficial impact on T&E fish, waterfowl, and non-game species. Closure would reduce erosion, decreasing utilization of forage within the riparian area, and improving water quality. Closure of the Muddy River Allotment would have a beneficial impact on desert tortoise, as increased forage and cover would be available.

#### **From Wild Horse and Burro Management**

Seven herd management areas would be managed to support wild horses and burros (see Table 2-29). The management boundary of the Gold Butte Herd Management Area would be moved south to exclude Category I tortoise habitat. This would benefit desert tortoises by reducing the potential for negative impacts from burro use of tortoise habitat.

#### **From Lands Management**

Discretionary Disposal Areas - Approximately 155,258 acres within the planning unit would be available for disposal through sale, exchange, color-of-title or R&PP patent. No Category I tortoise habitat would be available for disposal, benefiting desert tortoise populations. Approximate 1,320 acres of Category II tortoise habitat would be available for disposal. Most of the habitat available for disposal is marginal wildlife habitat due to the proximity of urban areas. Continued expansion of the developed areas would create new marginal areas for wildlife. Direct impacts to desert tortoises would include incidental take and loss of



habitat. Indirect impacts would comprise the increased possibility of take due to casual recreational use, harassment by domestic dogs and cats, and degradation of habitat due to casual recreational use and illegal dumping.

Legislative Disposal Areas - Legislative disposal of large blocks of public land would have negative impacts on wildlife. Impacts to desert bighorn sheep could include loss of habitat, fragmentation of habitat, and disruption of migration routes. Negative impacts to desert tortoise could include permanent loss of habitat, habitat degradation, restriction of tortoise movements due to fencing, direct mortality and illegal collection. Additional negative impacts would include habitat fragmentation and a potential increase in predation as a result of powerline construction which provides perching sites for ravens and raptors. Legislative disposal in the past have or will result in the loss of 40 percent of the potential Category I tortoise habitat in Coyote Springs and Dry Lake valleys, and 67 percent of the intensive Category III habitat in Eldorado Valley. Negative impacts to other wildlife species include increased direct mortality and ground water withdrawals which could effect springs discharge and riparian habitat.

Section 302 Leases - Approximately 1,636,059 acres of public lands within the planning area (with the exception of ACECs) would be available for land use leases and permits under Section 302 of FLPMA. This would constitute a 49 percent decrease in the amount of land available for lease. Wildlife would benefit under this alternative since the areas closed to leasing (ACECs) include the most essential habitat of T&E and candidate species. Negative impacts to wildlife, including habitat loss, fragmentation or degradation of habitat, direct mortality, and increased potential for harassment would be reduced.

Withdrawals - Valid existing withdrawals would be carried forward and would have beneficial impacts on wildlife. Approximately 193 acres of pupfish habitat in the Ash Meadows area has been withdrawn from public land laws, agricultural laws, and the 1872 *Mining Law*. These pupfish withdrawals would have a beneficial impact on T&E species by protecting essential and critical habitats. The Mesquite Legislative Retention Area withdraws 637 acres along the Virgin River from the public land laws, the 1872 *Mining Law*, the 1920 *Mineral Leasing Act*, and the 1970 *Geothermal-Steam Act*. This withdrawal would have beneficial impacts on wildlife along the Virgin River, by protecting riparian and aquatic habitat.

The Aerojet Buffer Zone Lease Agreement Area would have a positive impact on desert tortoise. The Lease Agreement withdraws 8.8 percent of the potential Category I tortoise habitat in Coyote Springs Valley from the public land laws, the 1872 *Mining Law*, the 1920 *Mineral Leasing Act*, and the 1970 *Geothermal-Steam Act*. If those lands were to be developed, the loss, fragmentation, and degradation of habitat and direct mortality would constitute a negative impact to the desert tortoise.

Under this alternative, 83,100 acres in Red Rock Canyon would be withdrawn from the public land laws, the 1872 *Mining Law*, the 1920 *Mineral Leasing Act*, and the 1970 *Geothermal-Steam Act*. This withdrawal would have a beneficial impact on desert bighorn sheep, peregrine falcon, and many other wildlife species by providing additional protection of wildlife habitat.

Wildlife would experience beneficial impacts under this alternative. Withdrawal of an additional 445,600 acres from the public land laws would reduce fragmentation and degradation of wildlife habitat. Large blocks of habitat, sufficient to support viable populations, could be maintained. Springs and associated riparian habitats would be preserved for wildlife use.

Pending withdrawals - A total of 1,569 acres in Nye County would be withdrawn by the BLM, constituting a beneficial impact on T&E plants and animals in Ash Meadows National Wildlife Refuge (NWR). Such withdrawals would afford increased protection of limited habitats of T&E species.



## Classifications

Airport Lease Classifications - Airport leases totaling 2,827 acres would be carried forward as valid existing management. No new airport leases would be allowed in ACECs. Two hundred acres of airport leases within the Ash Meadows NWR would be relinquished resulting in significant positive impacts to T&E species.

### **From Recreation Management**

Recreation Management Areas - These areas would be managed for recreational opportunities ranging from semi-primitive to intensive uses. Management of SRMAs where they overlap with tortoise ACECs could have both a positive and negative impact on desert tortoise. Current levels of recreational use would be better managed, resulting in fewer impacts to wildlife. Management actions which generate recreational use of tortoise ACECs could negatively impact the desert tortoise by increasing the potential for mortality, harassment and habitat degradation. Depending upon the level of recreational use allowed, the impacts could be significant.

OHV racing - Acreage open to high-speed, competitive OHV events would decrease by 92.5 percent. Category I and II tortoise habitat would not be open to OHV events, except for the designated Nissan 400 course. The desert tortoise and other wildlife species would benefit over the long term. Direct impacts associated with high-speed, competitive events include soil compaction and erosion, the widening of existing roads and trails, the creation of new roads and trails, and increased potential for direct mortality and harassment. Off-road activity by spectators can cause extensive damage to vegetation and soils, and direct mortality and harassment of wildlife. These negative impacts would be significantly reduced under this alternative.

Big Dune would be closed to all competitive events, reducing negative impacts to candidate species.

Off-road vehicle designations - Wildlife would benefit under this alternative. Negative impacts associated with off-road activity such as habitat fragmentation and degradation, the proliferation of roads, harassment, vandalism and road kills would be reduced. The acreage designated as open would decrease by 99.7 percent; the Las Vegas Dunes would be the only area which would remain open. Most Category I and II tortoise habitat would be designated as limited to designated roads and trails, further reducing impacts on tortoise. Some roads would be physically closed and rehabilitated. Five acres on Big Dune would be closed to casual OHV use resulting in continued negative impacts to candidate species, as less than 1 percent of the available habitat would be protected. Negative impacts would include degradation of habitat and other unknown impacts.

### **From Wild and Scenic Rivers Management**

The Virgin River would be evaluated for eligibility for wild and scenic river classification. Such classification would benefit most wildlife and could be a significant benefit to T&E fish species, as the river would be managed as a natural aquatic system.

### **From Rights-of-Way Management**

Approximately 1,938,845 acres would be designated as ROW avoidance areas. Acreage within ACECS, totaling 1,151,938 acres, would be excluded from material sites ROWs. Over the long term, there would be beneficial impacts to wildlife. The designation of utility corridors would facilitate the mitigation of impacts from proposed utilities and prevent the proliferation of ROWs throughout the Resource Area. Concentrating powerlines in narrow corridors would restrict and localize raven perching sites. Despite the designation of corridors, overhead powerlines would have a negative impact on desert tortoise by providing additional perching sites for ravens, causing loss and degradation of habitat and direct mortality during construction. Access roads for utility ROWs could also result in increased access into wildlife habitat. Increased access



would create a greater potential for incidental take, harassment, and degradation of habitat. These impacts would be reduced under this alternative as areas within ACECs and outside of corridors would be designated as ROW avoidance areas. Impacts to wildlife from material sites ROWs, which would include loss and fragmentation of habitat and direct mortality, would be greatly reduced under this alternative.

#### **From Wilderness Management**

In the short term, wildlife would benefit under *Interim Management Policy*. Long term, the designation of wilderness would positively impact wildlife. Although some management activities may be precluded in wilderness areas, long-term habitat protection from OHV use, mineral exploration and development, and associated indirect impacts would outweigh any negative impacts.

Areas recommended as suitable for wilderness designation but released from consideration by Congressional action would be managed as semi-primitive, nonmotorized areas. These areas would be closed to mineral entry under this alternative. Wildlife would benefit from this management as negative impacts associated with mining (habitat loss, degradation and fragmentation) would be reduced.

#### **From Minerals Management**

Negative impacts to wildlife from mineral exploration and development under this alternative would include direct mortality during mining activities. The loss and degradation of habitat, harassment, and an increased probability of incidental take would constitute indirect impacts. These would occur during exploration and development activities which could also create new roads, further fragmenting wildlife habitat.

Fluid minerals - The Ash Meadows and Virgin River floodplain ACECs would be closed to fluid mineral entry, resulting in a beneficial impact to T&E wildlife. Seasonal closures in bighorn sheep and desert tortoise habitat and no surface occupancy on springs/riparian habitat would reduce negative impacts from exploration and development. Wildlife would benefit as there would be less potential for incidental take of desert tortoise and reduced harassment of bighorn sheep during the summer. Closures would afford greater protection to critical habitats in Ash Meadows NWR.

Locatable minerals - The Ash Meadows ACEC would be closed to operation of the mining laws, constituting a significant positive impact to T&E species. All springs and riparian areas would also be closed to the operation of mining laws resulting in a positive impact on wildlife. Negative impacts from mining could be more easily mitigated as a mining plan of operation, rather than a mining Notice, would be required in all ACECs.

Mineral materials - Closed areas would include Ash Meadows ACEC, all proposed tortoise ACECs, as well as all springs and associated riparian habitat. Threatened and endangered species would significantly benefit from reduced habitat loss, degradation, and fragmentation. Impacts to tortoise habitat outside of the ACECs would be identified and mitigated through Section 7 consultation.

Non-energy leasables - Closed areas would include the Ash Meadows and Virgin River floodplain ACECs. Threatened and endangered species would benefit from reduced habitat loss, habitat degradation, habitat fragmentation, harassment, and incidental take.

#### **From Acquisitions Management**

The BLM would attempt to acquire 12,679 acres within ACECs, conferring a long-term benefit to wildlife. Wildlife habitats would be consolidated, facilitating management of large blocks of public lands. The possible acquisition of Aerojet lands could have a significant impact on desert tortoise populations,



increasing the size of the Coyote Springs ACEC by approximately 13 percent. The acquisition of 415 acres in Ash Meadows ACEC would benefit the T&E species of the refuge.

#### **From Special Management Areas**

Approximately 1,151,938 acres would be designated as ACECs, significantly benefiting T&E species and wildlife in general. Desert tortoise habitat totaling 970,160 acres would be managed for the continued existence of the species, resulting in positive impacts to the desert tortoise. Ecological condition in the ACECs would be improved to support, at a minimum, existing tortoise populations. ACECs would be managed primarily for desert tortoise and impacts to tortoise would be mitigated. Conflicting land uses, including mining and OHV use, would be somewhat limited within the ACECs, reducing both direct and indirect impacts on the tortoise. Management actions under this alternative may not be sufficient to allow for recovery of the species.

Approximately 27,835 acres of essential habitat in Ash Meadows would be managed for the recovery of the Ash Meadows ecosystem and endemic species. The ACEC would be closed to mineral entry, eliminating the impacts associated with exploration and development activities. Potential impacts from recreational uses, such as habitat degradation, erosion, and soil compaction, would be reduced. Approximately 1,000 acres at Big Dune would protect four candidate species. Impacts from OHV use would be reduced. Approximately 14,600 acres in the River Mountains would be designated as an ACEC. Impacts from OHV use would be reduced. A mining plan of operations would be required on all mineral development, allowing mitigation of impacts associated with mining. Approximately 9,600 acres of mesquite habitat would be designated as an ACEC and potential impacts from mining and OHV use would be reduced. Mesquite would be managed to provide ample cover and forage for wildlife. Firewood harvest would be limited to a level which would benefit wildlife and vegetation.

### **FORESTRY MANAGEMENT**

#### **From Forestry Management**

Approximately 1200 acres of mesquite woodlands would be managed for non-commercial fuelwood harvest with a maximum harvest of 35 cords per year authorized. Harvest would be restricted to dead or down wood or green trees specifically marked by BLM; harvesting would be limited to the period from May through August. No additional road construction into the harvest area would be authorized.

Salvage harvest of desert vegetation would continue to occur on rights-of-way, mining claims, and other areas where permitted activities would involve the removal of vegetation from the public lands. Salvage harvests would be available for both commercial and non-commercial uses, with harvest conducted whenever necessary. The sale of up to 1000 plants per year is anticipated under this alternative.

Approximately 138,400 acres of pinyon-juniper woodland and conifer forest would be managed at a minimum for late seral stage. None of the pinyon-juniper woodlands would be managed for fuelwood, fence post or Christmas tree harvest.



## **LIVESTOCK GRAZING MANAGEMENT**

### **From Fish and Wildlife Habitat Management**

Management actions resulting from the desert tortoise/livestock grazing Section 7 consultation and taken to protect and ensure the recovery of the desert tortoise would have a significant impact on the livestock grazing program in the SRA. Livestock operators on 34 different allotments would not be authorized to graze livestock on approximately 1,389,000 acres of Category I, Category II, and "intensive" Category III desert tortoise habitat from March 1 through June 14. This translates into an annual loss of approximately 5,124 AUMs, in terms of averaged licensed use. Grazing use would be keyed to specific utilization levels, depending on season of use. If grazing use exceeded these levels, livestock would be removed from the allotment. In Category I, Category II, and "intensive" Category III desert tortoise habitat, use levels on all key perennial species could not exceed 40 percent of current year's growth from June 15 through October 14. Use levels could not exceed 50 percent on key perennial grasses and 45 percent of key perennial shrubs and forbs between October 15 and February 28 or 29. The majority of the grazing allotments in the planning area are "water-base", where control of water sources on the allotment (such as springs and wells) serve as the base property for the grazing permit or lease. The operators generally do not own private pasture land and would, therefore, be forced to either to sell their livestock, rent or purchase other grazing lands during this period or remove the livestock to non-productive private lands and purchase feed. Approximately 1,857 AUMs of forage would need to be provided from other sources in order to maintain current herd sizes (based on average use of the public lands over the last 10 years).

Livestock operators on 19 different allotments which contain approximately 641,000 acres of "non-intensive" Category III desert tortoise habitat would be required to remove their livestock only if grazing use exceeded the established utilization levels. From February 15 through October 14, use levels could not exceed 40 percent on all key perennial species. Between October 15 and February 14, use levels could not exceed 50 percent on key perennial grasses and 45 percent on key perennial shrubs and forbs. Range improvements, including water hauls, corrals, etc., would not be constructed in sensitive wildlife areas (i.e. bighorn lambing grounds) and within  $\frac{1}{2}$  mile of wildlife water developments.

### **From Livestock Grazing Management**

Approximately 2,036,933 acres of public lands within the SRA would be available for domestic livestock grazing. Grazing use would be authorized in accordance with the terms of the desert tortoise/livestock grazing Section 7 consultation (see analysis above).

Under this alternative, approximately 1,075,880 acres of public lands would be closed to all domestic livestock grazing. This figure includes 982,790 acres of closures carried forward as valid existing management, one allotment encompassing 72,277 acres closed for lack of base property, two allotments encompassing 17,978 acres closed due to conflicts with riparian management, and approximately 2,835 acres along the Meadow Valley Wash and Virgin River floodplains and riparian zones.

Grazing on all allotments except Mt. Stirling would be authorized in accordance with the Ephemeral Range Rule and the terms of the desert tortoise/livestock grazing Section 7 consultation. Utilization of key forage species would be limited to 55 percent of current year's growth, except in desert tortoise habitat. In those areas, utilization levels would be limited to 40, 45 or 50 percent of current year's growth, depending on season of use and vegetation type. The distribution of livestock would continue to be controlled by the availability and location of water for the majority of allotments until the development and implementation of AMPs.



Vegetation (forage) would recover slowly from livestock grazing and trampling in the short term. Livestock tend to repeatedly graze areas at the same time each year, with no rest afforded the plants during the critical early growing season. Control of livestock use through water availability and location would continue.

Plans would be prepared for "I" and "M" allotments, detailing long-term management practices and range improvement projects to attain a more uniform distribution of livestock and forage use. Provisions for rest of forage from grazing throughout an allotment would also be included in the AMP.

#### **From Wild Horse and Burro Management**

Wild horses and burros in six different HMAs (Gold Butte, Muddy Mountains, Eldorado, Lucky Strike, Red Rocks, and Johnnie) would continue to directly compete with livestock for forage, water, and space on all or portions of nine active grazing allotments (Mt. Stirling, Lucky Strike, Wheeler Wash, Table Mountain, Muddy Mountains, White Basin, Gold Butte, Azure Ridge, and Ireteba Peaks). Approximately 363,689 acres of public rangelands would be affected. If wild horse and burro numbers are kept in a thriving natural ecological balance, the only impact to livestock grazing would be the loss of forage to wild horses and burros that would otherwise be available for livestock. Based on current population numbers, wild horses and burros would consume a minimum of 10,500 AUMs per year.

#### **From Recreation Management**

Recreation management actions under this alternative would significantly benefit livestock grazing. Approximately 2,472,405 acres of public lands, available for livestock grazing and currently designated as open for unrestricted casual OHV use, would be re-designated as either limited to existing roads, trails or washes or limited to designated roads, trails or washes. Cross-country vehicle use would be eliminated in these areas. OHV-related damage to forage and other vegetation would be decreased, making this forage available for livestock consumption. Direct impacts to livestock grazing could continue in the form of livestock harassment and vandalism to range improvements by some OHV recreationists. Hunting and recreational target shooting would have an adverse impact on livestock. Direct mortalities could result as well as disturbances which force livestock to move away from areas where forage or water is located.

### **WILD HORSE AND BURRO MANAGEMENT**

#### **From Air, Soils, and Water Management**

In the short term, management actions to protect or improve soil and water resources may impact wild horse and burro management. Such actions could require a reduction in wild horse or burro numbers to allow for the recovery of vegetation, especially in riparian areas. Over the long term, these actions would have a beneficial indirect impact on wild horse and burro management by improving the overall condition of the vegetation and water within HMAs. Wild horse and burro populations could then be allowed to increase until a thriving natural ecological balance is attained.

#### **From Fish and Wildlife Habitat Management**

Management actions taken to maintain or enhance fish and wildlife habitat would continue to have relatively minor impacts to wild horse and burro management, except in the case of threatened and endangered species. Competition with desert bighorn sheep for forage, space, and water would continue on approximately 198,100 acres in the Gold Butte, Muddy Mountains, and Eldorado HMAs. The development of artificial wildlife waters, such as big game guzzlers, could result in wildlife populations expanding into areas currently being utilized by wild horses and burros. This expansion would perpetuate competition



between the animals for forage, space, and water. The introduction of desert bighorn sheep into new areas or the re-introduction of bighorn into unoccupied historical use areas could increase the level of inter-specific competition.

The management of threatened and endangered species could significantly impact wild horse and burro management. In extreme cases such as Ash Meadows, wild horse and burros would continue to be excluded from areas where they occurred in 1971, in order to protect and ensure the recovery of threatened and endangered plant species unique to the Ash Meadows ecosystem. Wild horse and burro populations could be reduced to ensure adequate forage availability for the desert tortoise. Where necessary, the management boundaries of four HMAs (Gold Butte, Eldorado, Muddy Mountains, and Johnnie) could be revised to accommodate the desert tortoise.

#### **From Livestock Grazing Management**

Livestock grazing on eight active grazing allotments (Mt. Stirling, Lucky Strike, Wheeler Wash, Muddy Mountains, White Basin, Gold Butte, Azure Ridge, and Ireteba Peaks) would continue to impact wild horse and burro management. Approximately 363,689 acres in six HMAs (Gold Butte, Muddy Mountains, Eldorado, Lucky Strike, Red Rocks, and Johnnie) would be affected. Livestock would compete with wild horses and burros for forage, space, and water. Allotment boundary fences and interior pasture fences would continue to present a physical hazard to wild horses and burros, restricting their wild and free-roaming nature in some cases.

#### **From Wild Horse and Burro Management**

The 10,000 acre Amargosa HMA would continue to be managed at a "0" population level due to a lack of water, inadequate forage production, and conflicts with private land owners in the area.

Wild horses and burros would continue to be managed on approximately 668,241 acres of public lands in six HMAs. The names and boundaries of the HMAs would be modified to more accurately reflect the different herds that comprise the wild horse and burro population in the planning area. The Eldorado Mountains, Gold Butte, Muddy Mountains, and Amargosa HMAs would remain unchanged from the current situation. The Spring Mountains HMA would be split into two HMAs: the Red Rocks and Lucky Strike HMAs. The Red Rocks HMA would comprise the southern portion of the old Spring Mountain HMA; the Lucky Strike HMA would be created from the northern half of the old Spring Mountain HMA. The old Mt. Stirling and Last Chance HMAs would be combined into the Johnnie HMA. In these HMAs, wild horses and burros would continue to be managed at current population levels until monitoring has determined the thriving natural ecological balance appropriate for each HMA. The long-term population level necessary to achieve and maintain a thriving natural ecological balance may be less than current population levels. Both the wild horses and/or burros and their habitat would be monitored to achieve and maintain this thriving natural ecological balance within each HMA.

Wild burros in the Gold Butte HMA would continue to be managed in accordance with the terms and conditions of the Gold Butte Herd Management Area Plan. Herd management area plans (HMAPs) would be developed for the other HMAs, detailing water and range improvement development, as well as herd management methods. These HMAPs would detail both short and long-term herd and habitat management practices in order to maintain healthy, viable populations of wild horses and/or burros in a thriving natural ecological balance within each HMA.

The wild and free-roaming character of wild horses and burros would continue to be maintained by modifying livestock improvements in HMAs, as necessary. Wild horses and burros would continue to be managed only within designated HMAs and would not be allowed to expand outside the delineated HMA boundaries.



### **From Recreation Management**

Changes in the management of OHV use from the current situation would result in a significant beneficial impact on wild horses and burros. Approximately 193,710 acres, encompassing four entire HMAs (Muddy Mountains, Eldorado, Mt. Stirling, and Johnnie), and approximately 79,403 acres of the Red Rocks HMA would be designated as limited to existing roads, trails, and washes or limited to designated roads, trails, and washes. Cross-country OHV use and its impacts to wild horses and burros and vegetation would be eliminated. Areas previously disturbed by cross-country OHV use would recover in the long term.

Adverse impacts to wild horses and burros in the Muddy Mountain HMA would continue to occur from competitive OHV use (Gamblers Bitter Springs Hare Scramble). The impacts would be similar to those identified above for repeated, heavy casual OHV use. Recreational hunting and target shooting in HMAs would have an adverse effect on wild horses and burros by forcing the animals to move away from forage, water, or shelter, or by causing direct injury or death.

### **CULTURAL RESOURCE MANAGEMENT**

Except as specifically discussed below, the impacts to cultural resource management under this alternative would be the same as those analyzed for the No Action Alternative. The definition of impacts to cultural resources relies on a minimal concept which implies that any kind of change to an historic feature, prehistoric site or cultural resource, no matter how small or seemingly minimal, constitutes an impact. Indirect and direct impacts are treated as one under cultural resource management. Thus, the estimated acreages and numbers of cultural resources projected for impacts from each management program should be larger than that calculated for direct impacts.

#### **From Fish and Wildlife Habitat Management**

Designation of 970,160 acres as tortoise ACECs and 47,678 acres for other ACECs (total of 1,017,838 acres) would aid in the preservation of 2,000 eligible sites by restricting and inhibiting potentially threatening actions in the following zones: Piute Valley, Eldorado Valley, portions of the Goodsprings Valley, Meadow Valley Mountains, Virgin Mountains, Muddy Mountains, and the Arrow Canyon Range.

#### **From Forestry Management**

The development of a woodlands management plan for 1,200 acres in Pahrump Valley and Amargosa Flat has the potential to affect 300 sites. This would constitute a significant impact on cultural resources.

#### **From Livestock Grazing Management**

Livestock grazing on 2,036,933 acres has the potential to affect 5,200 eligible sites and 31,000 acres of Traditional Lifeway Area. The integrity of archeological districts and Traditional Lifeway Area in the Gold Butte, Whitney Pocket, Arrow Canyon Range, Muddy Mountains, McCullough Mountains, and Virgin Mountains, in particular, could be sacrificed. The potential for significant impacts to cultural resources would be present under this alternative.

#### **From Cultural Resource Management**

Implementation of this alternative would positively impact cultural resource management through the designation of separate ACECs for eight archaeological sites.



### **From Lands Management**

Under this alternative, 1,603,885 acres of public lands would be available for leases, permits, rights-of-way and disposal, potentially affecting 3,300 eligible sites. The potential for significant impacts to cultural resources would be less than under the No Action Alternative. The withdrawal of 560,700 acres from leases, permits, and disposals would aid in the preservation of approximately 1,000 eligible sites, but would not change the potential for significant impacts to cultural resources.

### **From Recreation Management**

Approximately 20 eligible sites could be affected by the designation of 9,180 acres as open for OHV use areas. Those zones which would be open have been evaluated as medium to low sensitivity for cultural resources, based on limited survey, specifically in the Jean/Roach Lake and Eldorado Valleys (Myhrer 1990 a:20). The impacts to cultural resource would be significantly reduced from the levels anticipated under the No Action Alternative, since the amount of open OHV acreage has been substantially reduced.

### **From Rights-of-Way Management**

The designation of 540,247 acres of corridors for transmission systems and facilities in Clark and Nye Counties has the potential to affect 1,000 eligible sites. Although utility corridor designations would protect a large number of eligible properties from impacts, potential effects to 1,000 sites would constitute a significant impact to cultural resources from the rights-of-way program.

### **From Minerals Management**

Locatable mineral activities on 3,703,833 acres would have the potential to impact 7,500 eligible sites. Allowing salable mineral disposal on 2,959,709 acres could impact 6,000 eligible sites. Solid leaseable mineral uses on 3,943,316 acres have the potential to affect 7,500 eligible sites. The encouragement of fluid leaseable minerals on 747,779 acres in the planning area could potentially impact 1,500 eligible sites. Minerals activities could significantly impact cultural resources during the life of the RMP.

## **LANDS MANAGEMENT**

Except where otherwise indicated, the impacts to the lands program would be same as those identified for the No Action Alternative.

### **From Lands Management**

Disposal Areas - This alternative would provide approximately 155,258 acres of public land in the SRA for discretionary disposal through sale, exchange, color-of-title or R&PP patent for the future growth and development of individual communities within the planning area. Of the lands identified, 61,838 acres are located in the Las Vegas Valley where a fragmented growth pattern with an easement identification problem on approximately 23,000 acres of these lands have developed.

Approximately 148,434 acres of public land have also been identified through special legislation for sale only. Legislative withdrawals consist of P.L. 85-339, the *Eldorado Valley Act* lands; P.L. 99-548, the *Mesquite Lands Transfer* area; P.L. 73 and P.L. 522, the Henderson Sale areas; and P.L. 101-67, the Apex Project Area. Upon termination of the legislative withdrawals for the Mesquite and Eldorado Valley disposal areas, any lands remaining in Federal ownership, which meet the disposal criteria, will be made available for disposal through the most appropriate authority.



The *Santini-Burton Act* (P.L. 96-586) provided for the orderly disposal of approximately 9,300 acres of public land within a 182 square mile area in the Las Vegas Valley. These lands are not classified or segregated from the public land laws or the mining laws and can be disposed of other than through this sale authority; priority is to be given to sale. To date, approximately 2,584 acres of public land have been sold through the *Santini-Burton* legislation. Not all the public lands covered by this legislation have or would be disposed of under that authority. Some of the lands included in the sale area have been authorized for flood control purposes, highway purposes, and R&PP patent or lease. Upon termination of *Santini-Burton*, the remaining Federal lands would be added to the discretionary disposal pool.

Under this alternative, approximately 155,258 acres of public land would be available for R&PP lease or patent which would enhance community development by providing lands at less than fair market value. These leases/patents could be issued for schools, libraries, hospitals, community centers, parks, public golf courses, fire stations, churches, community buildings, law enforcement facilities, correctional institutions, and water and sewage treatment facilities.

All public lands within the resource area (approximately 3,671,341 acres) would be unavailable for agricultural entry under the *Desert Land Entry*, *Indian Allotment Act*, and the *Carey Act*.

Lease Areas - Approximately 1,636,059 acres of public land (ACECs excluded) would be available for land use leases and permits through Section 302 of FLPMA. Such leases could resolve unauthorized use of public lands and allow collection of fair market value rental. The general public would have the opportunity to acquire the use of public lands, another source of revenue would be generated for the Federal government, and multiple-use management goals met.

Public lands open to airport leasing would be limited to the few communities which have actually expressed a present or future need for airport facilities. These areas include all lands within a 2 mile radius of Jean and Searchlight and within a 3 mile radius of Pahrump. This would provide communities with airport facilities which they could not otherwise afford to purchase and multiple-use management goals would be met. Most of these lands consist of a small portion of, or are outside of the discretionary land disposal areas. Both Clark and Nye Counties have applications on file with SRA which identify a total of approximately 4,063 acres for airport purposes. No airport leases would be authorized within designated ACECs.

Classifications - Approximately 175 acres of public land would be vacated of old small tract classification encumbrances. Before the lands encumbered by this type of classification can be leased or disposed of under Section 203 sale authority, the small tract classifications must be vacated and the lands opened to entry under the public land laws.

Segregations - The impacts would be the same as those analyzed for the No Action Alternative.

Withdrawals - Approximately 18,250 acres of public land within the resource area would continue to be encumbered by Federal Energy Regulatory Commission (FERC) withdrawals, precluding disposal of any of the lands. Filing an application for a preliminary permit with FERC automatically segregates the lands from the public land laws, pending authorization of a licensed hydropower project. Applications for public lands are evaluated for land use, environmental issues, and authorization of rights-of-way by BLM. FERC is the authorizing agency for licensing of the project and also has the responsibility for vacating withdrawals on public lands which are not going to be licensed for proposed projects. To date approximately 17,756 acres of public land of record have been permitted for actual projects. Historically FERC has not always coordinated with BLM; consequently, it is not known how much of the remaining withdrawn acreage of record is actually needed for projects or whether some of the withdrawals have been vacated.



The following Special Management Areas, totaling 445,600 acres, would be designated and withdrawn from entry under the public land laws:

- Arrow Canyon Archaeological/Paleontological District ACEC (3,100 acres)
- Ash Meadows ACEC (37,078 acres)
- Big Dune ACEC (1,000 acres)
- Bird Spring Archaeological Site ACEC (160 acres)
- Crescent Mining Townsite ACEC (320 acres)
- Gold Butte Historic Mining Townsite ACEC (120 acres)
- Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)
- Keyhole Canyon Rock Art Site ACEC (160 acres)
- Pahrump Valley ACEC, Unit C (560 acres)
- Red Rock Springs Archaeological Site ACEC (640 acres)
- Sloan Rock Art Site ACEC (320 acres)
- Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)
- Virgin ACEC, Unit C (14,620 acres)
- Desert Tortoise Conservation Center (634 acres)
- Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)
- Within 1/4 mile of springs and associated riparian zones (2,333 acres)
- Within 1/4 mile of significant caves (3,200 acres)
- Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)
- Traditional Lifeways Areas (31,000 acres)
- Within 1/2 mile of existing sections of the Old Spanish Trail/Mormon Road (1/4 mile on either side of the centerline-36,000 acres)

#### **From Rights-of-Way Management**

Approximately 540,247 acres of public land would be designated for utility corridors. Utility corridors would range in width from 1 to 3 miles, for a total length of approximately 590 miles. Designation of corridors would lessen the encumbrances incurred by randomly placed, single-use lines on public lands which could lower the appraisal value of the lands identified for disposal. Conversely, the potential exists for a loss of approximately 37,372 acres of public land identified for disposal throughout the planning area.

#### **From Minerals Management**

Approximately 65,998 acres of public land high in sale value within the Las Vegas and Laughlin areas would be withdrawn from all mineral entry and development. This alternative also identifies approximately 3,968,864 acres of public land that would remain open for fluid leaseable, 3,703,833 acres for locatable, 2,959,709 acres for saleable, and 3,943,316 acres for solid leaseable entry and development unless segregated from entry, withdrawn, or classified for other purposes. Mineral entry and development encumbers the land and lowers the appraisal values. High potential mineral value could also preclude disposal of the lands. Other negative impacts to the lands disposal program include "nuisance" claims, filed on lands known for their high sale value. In cases where the mining claimant has refused to relinquish the claims, the individual or agency applying for the land disposal has been forced to buy out the claimant. The processing of validity tests on the "nuisance" claims is another mechanism for ridding the lands of that encumbrance; these tests can be expensive and are time consuming.

#### **From Special Areas Management**

Under this alternative, 9,243 acres of BLM inholdings within the Ash Meadows NWR boundary could be taken out of multiple-use management and transferred to the U.S. Fish and Wildlife Service.



## **NATURAL AREAS MANAGEMENT**

### **From Natural Areas Management**

The Virgin Mountain, Sunrise Mountain, and Pine Creek Canyon natural areas, which total 16,950 acres, would continue to be managed as Instant Study Areas for possible wilderness designation until Congress makes a decision regarding their status. Management of these areas would continue in accordance with the non-impairment criteria, providing an increased level of protection to all resources. The 150 acre Pine Creek Canyon Research Natural Area would also continue to be withdrawn from the operation of the 1872 *Mining Law* and the public land laws, which would further protect all resources from impacts related to mining, right-of-way development, and most other surface disturbing activities.

The 40 acre Devil's Throat Natural Hazard Area would receive additional protection through withdrawal of the area from the operation of 1872 *Mining law* and the public land laws, closure to fluid mineral leasing, non-energy mineral leasing, and mineral material activities, designation as a mineral material site right-of-way exclusion area, designation as a right-of-way avoidance area, and inclusion within the Virgin ACEC.

## **RECREATION MANAGEMENT**

### **From Air, Soil, and Water Management**

Construction of reservoirs, spring developments, and bighorn and upland game guzzlers might affect opportunities for semi-primitive nonmotorized recreation opportunities, depending on locations and proposed access. These same developments could increase opportunities for hunting and wildlife viewing and photography. Increased development of water sources could increase visitor days for hunting by 10 percent or up to 36,000 visitor days per year. Motorized vehicle closure of 8,882 acres in the Virgin River area would directly affect approximately 600 of the 1,000 visitor days per year.

### **From Fish and Wildlife Habitat Management**

Proposed tortoise ACECs would eliminate OHV competitive events on 970,160 acres in the resource area. Restrictions would directly affect five motorcycle events in the Piute Valley, one motorcycle event in the Mormon Mesa/Moapa area, one motorcycle event in the Ivanpah area, and one motorcycle and one buggy event in the Goodsprings Valley area. Approximately 4,000 participants (racers, pit and chase crews) and 5,000 spectators would be impacted annually. This loss of opportunity would displace users to other areas such as the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. Use in the Nelson Hills would increase by 50 percent, in the Jean/Roach Dry Lake area by 25 percent, and in the Nellis Dunes by 50 percent. In the Eldorado Valley area, use would remain constant.

Recreational uses such as OHV touring and free-play, hunting, camping, picnicking, and other recreational competitive and commercial activities could be restricted, eliminated, or entirely displaced to other locations as a result of motorized vehicle limitations designed to protect desert tortoise habitat. Motorized vehicle closures or limitations in tortoise management ACECs could directly affect 6 percent of all visitor use in the Resource Area (or approximately 104,263 visitor days). Motorized vehicle limitation would cause an increase in semi-primitive motorized recreation opportunities from roaded natural opportunities in the Mormon Mesa/Coyote Springs and Ivanpah ACECs. The total gain of semi-primitive motorized recreation opportunities would be approximately 447,160 acres.



### **From Livestock Grazing Management**

Road construction for range improvements would open some previously inaccessible areas for motorized recreation. Increased motorized recreation opportunities could decrease the amount of semi-primitive nonmotorized and semi-primitive motorized recreation opportunities and lower the quality of the recreational experience for those who enjoy solitude. New access to remote areas would increase OHV activity and cause additional surface disturbance. A loss of semi-primitive motorized recreation opportunities closer to urban areas would also occur, as visitation and development increases. Semi-primitive motorized recreation opportunities could be lost to roaded natural recreation opportunities.

### **From Wild Horse and Burro Management**

Development of waters for wild horse and burros and managing herd sizes at appropriate levels would enhance the public's opportunity to view herds. Fencing the rights-of-way of NV S.R. 159 and 160 would reduce the number of wild horse/burro and motor vehicle accidents, as well as reducing traffic-related problems in the Red Rock Canyon NCA. Limiting OHV use to existing roads and trails in the Eldorado, Gold Butte, Johnnie, and Lucky Strike HMAs would not significantly affect recreation use in these areas. The restriction of camping to designated or established campgrounds in the El Dorado HMA would eliminate camping in the Eldorado Valley Special Recreation Management Area. The SRMA experiences significant recreational use and approximately 5,000 visitor days of camping would be eliminated.

### **From Cultural Resource Management**

Management of the Old Spanish Trail/Mormon Road, Gypsum Cave, Keyhole Canyon, Whitney Pockets, Frenchman Mine, Arrow Canyon, the Tonopah and Tidewater Railroad grade, Willow Springs, Brownstone Canyon, and Red Spring for sociocultural, educational, and recreational values would enhance the public's understanding, appreciation, and knowledge of cultural resources. Efforts made to create casts and to provide interpretive exhibits of paleontological resources would provide additional interpretive opportunities.

### **From Lands Management**

The disposal of lands within the Dry Lake Valley would affect and possibly eliminate one OHV event per year. Approximately 400 racers, 2,000 pit and support crew members, and upwards of 10,000 spectators would be impacted. The disposal of 2,965 acres of land near Jean would affect the start/finish areas for approximately four OHV events and inconvenience OHV promoters who would be forced to find new locations for these activities. Should all 128,401 acres of land involved in the Eldorado Valley Land Transfer area be disposed of to the state of Nevada or to some other entity, significant loss of recreation opportunities could occur. Six OHV events, two model airplane events, one commercial ultralight plane operator, and thousands of OHV, camping, ultralight, light aircraft, model rocket, hunting, and other dispersed recreational activities currently take place in that area each year. These activities would either be displaced or eliminated, totaling in excess of 50,000 visitor days per year.

Disposal of lands under the *R&PP Act* would enhance Rural and Modern Urban recreational opportunities in the Las Vegas Valley, Laughlin, Mesquite, Pahrump, and Boulder City areas. Proposed land withdrawals in the Resource Area would add additional protection from lands being disposed of in recreation management areas, significant cave and karst resources, and within semi-primitive nonmotorized recreation opportunity spectrum areas. In total, this would add withdrawal protection for 417,110 acres of important recreation opportunities.



### **From Natural Areas Management**

Designation of Sunrise Mountain and Pine Creek Canyon as Research Natural Areas would ensure long-term protection of research and interpretive opportunities on 31,550 acres. Designation of Virgin Mountain as an Outstanding Natural Area would provide long-term protection of natural and semi-primitive motorized recreation opportunities on 6,650 acres. Designation of Devil's Throat as a Natural Hazard Area would ensure long-term reduction of the natural hazard and interpretive opportunities on 20 acres in the Gold Butte area.

### **From Recreation Management**

Approximately 13 areas, totaling 1,009,220 acres, would be managed as Special Recreation Management Areas (SRMAs); one area, totaling 2,661,907 acres, would be managed as an Extensive Recreation Management Area (ERMA). Areas designated as SRMAs would be managed to ensure recreation opportunities are maintained in the long-term and that conflicts between users and with other resource values are resolved. The area designated as an ERMA would be managed to ensure that dispersed recreation opportunities are maintained in the long-term.

The designation of 13 SRMAs, the associated increase in opportunities, and the explosive population growth in southern Nevada could increase recreation use by approximately 20 percent or 289,620 visitor days per year (total visitor days could exceed 1,737,720 visitor days annually) within the next decade.

Recreational use in Red Rock Canyon National Conservation Area (NCA) would increase as a result of the recent NCA legislation and the growing Southern Nevada population. Vandalism and loss of quality recreational experiences, and conflicts between users would also increase. The proposed new facilities and enhanced visitor services and patrols would lessen some of the conflicts. These facilities may eventually be overburdened by visitor demand. It is anticipated that visitor days will increase by 25 percent or by 200,000 visits, within the next 10 years (total visitor days per year would equal approximately 800,000).

Under this alternative, OHV events would be restricted to approximately 237,282 acres within the Nellis Dunes, Jean/Roach Dry Lakes area, Eldorado Valley, and the Nelson Hills. One race per year would be allowed on designated courses in the Dry Lake Valley, along the Nevada 500 course, in the Mercury/Mt. Sterling area, and in the Highland Hills area. Two OHV events, one near Laughlin and the other in the Bitter Spring area, would be eliminated due to the impacts of those events on erosion and salinity to the Colorado River. Only 6 percent of the resource area would be available for OHV events, as compared with 76 percent under the No Action Alternative. The actual number of events affected would be two per year. These same events would be displaced to other areas. Visitor use would not change due displacement of these events to other areas in the resource area.

Less than 1 percent or 9,180 acres of the resource area would be designated open for unrestricted OHV use (compared to 47 percent under the No Action Alternative). Approximately 69 percent or 2,524,889 acres (compared to 51 percent under the No Action Alternative) would be limited to existing roads and trails and 31 percent or 1,124,868 acres (compared to 2 percent under the No Action Alternative) would be limited to designated roads and trails. Less than 1 percent or 12,190 acres (compared with the No Action Alternative) would be closed to all motorized use. The overall impact to users would be minimal from these designations since cross-country travel (off existing roads and trails) is limited in the SRA.

The resource integrity and quality of area caves for recreational and educational opportunities could be lowered by vandalism. The loss of integrity would be accelerated by improved access or by increased public knowledge of cave locations. All caves would be ensured long-term protection of their natural values



by management as wild cave systems, without commercial development. By establishing a registration system for all caves, educational information could be disseminated to the public, creating greater sensitivity for cave and karst resources.

Recreational facilities developed in the Red Rock Canyon NCA, Gold Butte, Muddy Mountain, Arrow Canyon, Sunrise Mountain, and Christmas Tree Pass would meet public demand in these locations. These facilities would reduce the impacts to cultural, wildlife, and soil resources caused by OHV use and overcrowding and could provide important resource and desert etiquette information to the public.

Recreational and target shooting would be eliminated from the Sunrise Mountain, Las Vegas Valley, portions of the Red Rock Canyon NCA, and Nellis Dunes areas, affecting approximately 50,000 visitor days per year. Such activities are illegal in these areas under Clark County Ordinances. Opportunities for recreational and target shooting would be less convenient, but would still be available at area shooting ranges or by traveling a minimum of 15 miles away from Las Vegas. Elimination of shooting in these areas would decrease user conflicts and safety concerns for hikers, mountain bikers, equestrian and off-highway vehicle users. Shooting-related litter would also be reduced.

#### **From Wild and Scenic Rivers Management**

Action would be taken to determine the eligibility of the Virgin River for Wild and Scenic River designation, based on the river being classified as a "Recreational River."

#### **From Rights-of-Way Management**

A utility corridor would be designated through the Sunrise Mountain/Rainbow Gardens area, reducing the aesthetic value of the area. Additional roads would be created, encouraging visitor use in the area by 10 percent. The designation of right-of-way avoidance areas in semi-primitive nonmotorized areas would ensure that these opportunities would remain available on 276,570 acres. Avoidance of rights-of-way on 3,200 acres would protect significant cave and karst resources. Approximately 83,100 acres of Red Rock Canyon NCA and 306,780 acres of ACECs with important recreational opportunities would be designated as right-of-way avoidance areas.

#### **From Wilderness Management**

The impacts would be the same as those analyzed for the No Action Alternative.

#### **From Minerals Management**

Significant caves would be protected from mineral development by ensuring the following for an area of 3,200 acres: 1) leasing of areas for fluid minerals would be subject to no surface occupancy within 1/4 mile of significant caves; 2) areas within 1/4 mile of significant caves would be closed from operation of the mining laws; 3) areas within 1/4 mile of significant caves would be closed from mineral materials disposal and authorization/renewal of material right-of-way; and 4). areas within 1/4 mile of significant caves would be closed to non-energy mineral activities.

Semi-primitive nonmotorized recreation opportunities would be protected on 276,570 acres by ensuring the following: closure to fluid mineral leasing, the operation of the mining law, from mineral materials disposal and authorization/renewal of material rights-of-way, and to non-energy mineral activities. Red Rock Canyon NCA would be protected from all actions associated with mineral development on 83,100 acres.



Within the Gold Butte SRMA (total acreage is 354,305 acres), 87,040 acres would be closed to fluid leasable, locatable, and non-energy leasable mineral development. Approximately 290,840 acres would be closed to mineral materials disposal and authorization/renewal of material site rights-of-way. Recreation opportunities such as horseback riding, mountain bike riding, camping, hiking, pleasure driving, hunting, and picnicking would not be compromised on these acres in the SRMA.

Approximately 78,480 acres of the Muddy Mountain SRMA (total acreage is 123,377 acres) would be closed to fluid leasable, locatable, material sales, and non-energy mineral development. Recreation opportunities such as hiking, camping, mountain bike riding, horseback riding, and wildlife viewing would not be compromised on these acres in the SRMA.

Within the Arrow Canyon SRMA (total acreage is 31,700 acres), 3,100 acres would be closed to fluid leasable, locatable, material sales, and non-energy mineral development. Recreation opportunities such as hiking, camping, mountain bike riding, horseback riding, and wildlife viewing would not be compromised on these acres in the SRMA.

All 31,400 acres of the Sunrise Mountain SRMA would be closed to all forms of mineral development to protect important research, geologic, wildlife, and visual resources.

Within the Nelson Hills/Keyhole Canyon SRMA (total acreage is 43,705 acres), 160 acres located at Keyhole Canyon would be closed to all forms of mineral development to protect important cultural, recreation, and aesthetic values. The remaining acreage (43,545 acres) in the SRMA would be available to all forms of mineral development and recreation opportunities would not be assured in the long-term.

All other lands located within SRMAs would be available for all forms of mineral development. Potential mineral development would increase access to some areas, opening up additional OHV race courses increasing visitation. Such development could also impair visual and aesthetic values and displace visitors and other recreational users from traditional areas.

#### **From Acquisitions Management**

The possible acquisition of 700 acres of private inholdings in Red Rock Canyon NCA would ensure the continued scenic and management integrity.

#### **From Fire Management**

Development of a fire prevention display for Red Rock Canyon NCA would enhance interpretive opportunities. Fire prevention signing and visitor contacts would decrease the likelihood of wildland fires destroying recreation sites in Red Rock Canyon and other important areas.

#### **From Special Management Areas**

Management of special management areas would eliminate OHV competitive events on 1,145,978 acres, directly affecting five motorcycle events in the Piute Valley, one motorcycle event in the Mormon Mesa/Moapa area, one motorcycle event in the Ivanpah area, and one motorcycle and one buggy event in the Goodsprings Valley area. This loss would directly impact 4,000 participants (racers, pit, and chase crews) and 5,000 spectators per year. Users would be displaced to other areas such as the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. Use would increase in the Nelson Hills by 50 percent, in the Jean/Roach Dry Lake area by 25 percent, and in the Nellis Dunes by 50 percent. Eldorado Valley area use would remain constant.



## **WILD AND SCENIC RIVERS MANAGEMENT**

### **From Wild and Scenic River Management**

The only action required at this time is a study of the Virgin River for potential designation as a "Recreational River". Should the river become designated as a "Recreational River", positive impacts are anticipated from other programs. Motorized vehicle closures, mineral withdrawals, no land disposal restrictions, and rights-of-way avoidance along the Virgin River would ensure that the scenic, riparian, wildlife, and natural values along the river are protected throughout the life of the plan. Should the river not be designated as a "Recreational River", scenic, riparian, wildlife, and natural values would remain protected through the same above-stated actions.

## **RIGHTS-OF-WAY MANAGEMENT**

Unless specifically analyzed below, the impacts under this alternative would be the same as those identified for the No Action Alternative.

### **From Visual Resource Management**

Under this alternative there would be minimal impacts to the rights-of-way program. In VRM Class II areas (approximately 1,125,415 acres) and Class III areas (approximately 1,867,657 acres), rights-of-way would be relocated as necessary, buried, or painted a color compatible with their surroundings to ensure scenic integrity.

### **From Fish and Wildlife Habitat Management**

Relocation of proposed project sites or Section 7 consultation would occur, as required, to avoid destruction of T&E animals. To prevent undue and unnecessary degradation of bighorn sheep lambing habitat, no new road construction will be authorized through the right-of-way program in those areas. To avoid impacts to potential peregrine falcon habitat in the Spring Mountains and the Virgin Mountains, stipulations would be implemented to assure that the area within one-half mile radius of active nests will be closed to site or project construction, to the extent possible, between Feb. 1 and Sept. 1 (or until nestlings fledge and nest is abandoned). The use of pesticides and other detrimental environmental pollutants which could accumulate in the peregrine and its food source would be prohibited on BLM-managed lands.

### **From Rights-of-Way Management**

Approximately 590 miles of utility corridors would be designated, totaling 540,247 acres of public land. Corridors would range from 1 to 3 miles in width. Newly-designated corridors would be limited to 2 miles in width within TMAs/ACECs, minimizing damage to natural resource values. No rights-of-way would be authorized within corridors designated in WSAs or ISAs until Congress releases them from further wilderness consideration and study. If the Sunrise ISA is released from further consideration, the corridor running through that area would be limited to transmission lines of 250kv. This restriction would stop the proliferation of single-use utility lines and preserve the scenic integrity of the area. Although utility rights-of-way would not be limited to existing corridors, all efforts would be focused on utilizing the corridors to their maximum capacity. The corridors were identified to encompass existing rights-of-way and avoid sensitive resources, providing beneficial social and environmental impacts by attempting to confine similar uses to a specified area rather than placing them randomly. Prospective right-of-way holders should enjoy an economic advantage and shortened processing time by the use of existing data. In some instances, the location and size of the corridors could render negative impacts to uses incompatible with the proposed use.



Authorization of future communication site rights-of-way would be limited to existing, established sites, within existing rights-of-way, related buildings, and communication facilities until a site management plan has been approved for that site. This would help to eliminate the proliferation of scattered single-user sites and lessen further administrative impacts to established communication sites.

Within the SRA, 181 material site rights-of-way have been authorized, totaling approximately 15,842 acres. No new material site rights-of-way would be authorized until the following are completed: incorporate the terms and conditions for material site rights-of-way contained in Appendix C in all new material site rights-of-way; coordinate with NDOT and evaluate the need for existing sites; encourage NDOT to relinquish sites no longer needed; and receipt of justification by NDOT for continued use of existing sites or need for additional sites. Unnecessary, randomly-placed, and ill-managed material site rights-of-way which encumber public lands, otherwise valuable for disposal or lease, would not continue to proliferate.

Approximately 31 per cent of the public lands within the resource area would be designated as right-of-way exclusion areas. Right-of-way exclusion areas would be limited to the following:

No material site rights-of-way will be authorized within ACECs.

This would constitute a loss of approximately 1,151,938 acres of public land available for material site development.

Approximately 53 per cent of the resource area would be designated as right-of-way avoidance areas. Areas of concern would be limited to the following (exclusive of any designated corridors):

- All ACECs
- Semi-primitive nonmotorized ROS areas
- Significant caves (within 1/4 mile)
- Wilderness Study Areas

This would constitute a potential loss of approximately 1,938,845 acres of public land available for all types of rights-of-way.

#### **From Wilderness Management**

Relocation of proposed project sites would occur or the nonimpairment criteria for wilderness study areas would be met, as required, before a right-of-way could be authorized. No rights-of-way would be authorized within corridors designated in WSAs or until Congress releases them from further wilderness consideration and study. If the Sunrise ISA is released from further wilderness consideration, the corridor traversing that area will be limited to transmission lines of 250kv and above to eliminate possible proliferation of multiple-use utility lines and resultant loss of the area's visual integrity.

#### **From Special Management Areas**

Within Special Management Areas (SMAs), rights-of-way for new roads would be addressed in one of the following ways as applicable to the SMA: 1) in response to approved site plans, activity plans or a plan of operation; (2) no new roads would be allowed; or (3) new roads would be approved on a temporary basis in response to specific permitted actions only. As funding and time permits, existing roads which are closed through the OHV designation process would be rehabilitated. (Right-of-way avoidance areas are discussed under ROWs section)



## **WILDERNESS MANAGEMENT**

All impacts would be the same as those identified under the No Action Alternative.

## **MINERALS MANAGEMENT**

### **From Riparian Management**

The proposed withdrawal of approximately 2,333 acres of Riparian Management Areas (areas within 1/4 mile of springs and their associated riparian zones) would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. The withdrawal would close approximately 2,333 acres to mining claim location, mineral material disposal, and solid mineral leasing. It would allow fluid mineral leasing with the stipulation that no surface occupancy could occur within the Riparian Management Areas.

### **From Fish and Wildlife Habitat Management**

Mining operations are presently limited in that they must comply with Section 7 of the *Endangered Species Act*. The proposed withdrawal of 634 acres for a Desert Tortoise Conservation Center would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal.

### **From Cultural Resource Management**

Mining operations must comply with Section 106 of the *National Historic Preservation Act*. The withdrawal of approximately 31,000 acres of Traditional Lifeways Areas (areas sacred to the Moapa Band of Paiute Indians) would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. The withdrawal would close approximately 31,000 acres to mining claim location, mineral leasing, and mineral material disposal.

### **From Lands Management**

Assuming the salable mineral estate is sold along with the surface estate, disposal of 65,998 acres of the approximately 108,107 acres of public lands within the Las Vegas Valley would significantly decrease the availability of both silt to the landscape industry and sand and gravel to the building industry. Construction of housing and other structures upon these lands would significantly increase the demand for silt, sand, and gravel which would already be in short supply within the Las Vegas Valley.

Existing classifications, withdrawals, and segregations (CW&S), which total 166 and affect 434,055 acres, limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. The proposed withdrawal of approximately 65,998 acres of Las Vegas and Laughlin Land Disposal Areas would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal.

### **From Recreation Management**

The designation of two areas, comprising approximately 12,190 acres, as closed to off-highway vehicle use, would require that a plan of operation be approved prior to commencing any mining operation, except casual use, in those areas. The proposed withdrawal of approximately 276,570 acres of Semi-primitive Nonmotorized Recreation Spectrum Areas would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. The withdrawal would close approximately 276,570 acres to mining claim location, mineral leasing, and mineral material disposal. The proposed withdrawal of



approximately 3,200 acres of Significant Cave Management Areas (areas within 1/4 mile of significant caves) would limit the availability of public lands for mining claim location, mineral material disposal, and solid mineral leasing. It would allow fluid mineral leasing with the stipulation that no surface occupancy could occur within the Significant Cave Management Areas.

#### **From Wild and Scenic Rivers Management**

The designation of the Virgin River for potential addition to or as an actual component of the national wild and scenic rivers system would require that a plan of operation be approved prior to commencing any mining operation, except casual use, in that area.

#### **From Rights-of-Way Management**

Lands affected by material site rights-of-way are effectively withdrawn from entry and location under the mining law. This limits the availability of public lands for mining claim location. Material site rights-of-way total 181 within the Stateline Resource Area and comprise approximately 15,842 acres.

#### **From Minerals Management**

Mineral material disposals may not be made from public lands which contain mining claims that have not been cancelled. This limits the availability of public lands for the issuance of material sales contracts and free use permits.

#### **From Acquisitions Management**

Assuming that the current owners would be willing to sell, approximately 12,679 acres of private land could be acquired during the life of the RMP; these lands would be available for all forms of mineral exploration and development unless specifically closed by legislative mandates or by subsequent administrative action taken in conformance with the RMP.

#### **From Special Management Areas**

The designation of Areas of Critical Environmental Concern would require that a plan of operation be approved prior to commencing any mining operation, except casual use, in those areas. Sixteen proposed withdrawals, totaling approximately 942,158 acres of Areas of Critical Environmental Concern, would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. Eleven of the withdrawals would close approximately 172,218 acres to mining claim location, 13 of the withdrawals close approximately 931,398 acres to mineral material disposal, 11 of the withdrawals close approximately 172,218 acres to solid mineral leasing, and 11 of the withdrawals close approximately 172,281 acres to fluid mineral leasing. Of the approximately 769,877 acres remaining, approximately 9,600 acres would remain open, subject to no surface occupancy and similar major constraints. Approximately 760,277 acres would be open subject to seasonal and other minor constraints.

### **ACQUISITIONS MANAGEMENT**

BLM would attempt to acquire approximately 12,679 acres of private land within the following, (if the opportunity arises and the current owner is willing):

- All designated ACECs containing private lands (approximately 4,382 acres)
- Ash Meadows ACEC, outside the refuge boundary (approximately 415 acres)
- Aerojet Exchange (approximately 7,882 acres)



These lands would be included within applicable designated ACECs. If the opportunity arises, additional lands to be acquired include all private lands within Category I, II, and III desert tortoise habitat, as described in the Special Management Areas section of this alternative.

The BLM would attempt to obtain an easement on or across the Pabco Tram Road which is an exclusive right-of-way. Obtaining an easement would enhance multiple-use management of public lands closed to access because of the exclusive access rights exercised by the current right-of-way holder.

## **FIRE MANAGEMENT**

### **From Air, Soil, and Water Management**

No change would occur in fire suppression activities or the boundaries of existing pre-attack fire management zones from the current situation. Fire suppression activities within the Las Vegas Valley Non-Attainment Area would continue to be managed to keep fire size to a maximum of 10 acres during 90 percent of the time, in order to minimize negative impacts to air quality, primarily particulates and haze. The use of fire suppression foams, penetrants, and retardants would continue to be prohibited in the immediate area surrounding water sources. In order to reduce other adverse impacts to soil and water resources from fire suppression activities, mitigation measures would be developed on a case-by-case basis, utilizing resource advisors in coordination with fire management specialists. Such mitigation could include requiring that a fire line in a critical erosion area to be constructed using only hand tools.

Prescribed burning for resource enhancement purposes would only be allowed on 149,231 acres in the Ash Meadows/Amargosa Flat area, the Bunkerville, Gold Butte, and Mesquite Community grazing allotments, the Virgin Mountains and Virgin River floodplains, Newberry Mountains, South McCullough Mountains, and Red Rock Canyon NCA (see Map 2-20). A programmatic fire burn plan and EA would be prepared for each resource enhancement area prior to the authorization of any prescribed burning. Subsequent prescribed burns would be authorized without further environmental documentation, provided that the terms and conditions of the programmatic burn plan and EA are met and the Stateline Area Manager concurs.

### **From Other Resource Management Programs**

The level of suppression activities and the boundaries of existing pre-attack fire management zones would not change from the current situation. Fire suppression activities throughout the planning area would continue to be managed to keep fire size to a maximum of 10 acres, 100 acres, or 500 acres, depending on the pre-attack management zone (see Map 2-1), 90 percent of time in order to minimize negative impacts to resources. The use of fire suppression foams, penetrants, and retardants would continue to be prohibited within 100 yards of riparian areas. All retardants used in fire suppression activities would continue to be required to dissipate within 14 days of use, reducing visual impacts. Mitigation measures would be developed on a case-by-case basis to minimize impacts associated with fire-suppression to other resources, utilizing resource advisors in coordination with fire management specialists. Such mitigation could include requiring that a fire line in a sensitive vegetation area be constructed using only hand tools.

Prescribed burning for resource enhancement purposes would only be allowed on 149,231 acres in the Ash Meadows/Amargosa Flat area, the Bunkerville, Gold Butte, and Mesquite Community grazing allotments, the Virgin Mountains, and Virgin River floodplains, Newberry Mountains, South McCullough Mountains, and Red Rock Canyon NCA (see Map 2-20). A programmatic fire burn plan and EA would be prepared for each resource enhancement area prior to authorizing any prescribed burn. Subsequent prescribed burns would be authorized without further environmental documentation, provided that the terms and conditions of the programmatic burn plan and EA are met and the Stateline Area Manager concurs.



### **From Wilderness Management**

No changes would affect fire suppression activities or the boundaries of existing pre-attack fire management zones. Fire suppression activities in wilderness study areas would continue to be managed to keep fire size to a maximum of 10 acres, 100 acres, or 500 acres, depending on the pre-attack management zone (see Map 2-1), 90 percent of time in order to minimize negative impacts to resources. All fire suppression activities must be conducted so as to comply with the non-impairment criteria in the *Interim Management Policy*.

Prescribed burning for resource enhancement purposes would be allowed only on 56,721 acres in the Virgin Mountain ISA, the North and South McCullough Mountains WSAs, the Pine Creek and LaMadre WSAs (see Map 2-20). A programmatic fire burn plan and EA would be prepared for each resource enhancement area prior to the authorization of any prescribed burn. Subsequent prescribed burns would be authorized without further environmental documentation, provided that the terms and conditions of the programmatic burn plan and EA are met and the Stateline Area Manager concurs.

Prescribed burning for fuel hazard reduction purposes would be allowed only on 61,793 acres in the Virgin Mountain ISA, the North and South McCullough Mountains WSAs, the Pine Creek and LaMadre WSAs (see Map 2-20). A programmatic fire burn plan and EA would be prepared for each fuel hazard reduction area prior to the authorization of any prescribed burn. Subsequent prescribed burns would be authorized without further environmental documentation, provided that the terms and conditions of the programmatic burn plan and EA are met and the Stateline Area Manager concurs.

### **From Fire Management**

Under this alternative, there would be no change in fire suppression activities or the boundaries of existing pre-attack fire management zones from the current situation. All wildfires will continue to be fully suppressed in accordance with Department of Interior policy. When multiple fires are burning and in response to limited fire fighting resources, pre-attack fire management objectives and zones have been established. Fire suppression activities throughout the planning area would continue to be managed to keep fire size to a maximum of 10 acres, 100 acres, or 500 acres, depending on the pre-attack management zone (see Map 2-1), for 90 percent of the time, in order to minimize negative impacts to resources.

Prescribed burning for fire fuels hazard reduction purposes would be allowed only on 232,109 acres in the Spring Mountains, Red Rock Canyon NCA, South McCullough Mountains, Newberry Mountains, and Virgin Mountains (see Map 2-20). A programmatic fire burn plan and EA would be prepared for each fuel hazard reduction area prior to the authorization of any prescribed burn. Subsequent prescribed burns would be authorized without further environmental documentation, provided that the terms and conditions of the programmatic burn plan and EA are met and the Stateline Area Manager concurs.

## **SPECIAL MANAGEMENT AREAS**

The discussion below is a summary of the impacts anticipated to occur from designation of ACECs. The impacts to a specific program or resource are analyzed in more detail in the appropriate program or resource discussion.

### **From Special Management Areas**

A total of 18 ACECs, encompassing approximately 1,151,938 acres, would be designated, providing special management attention to protect critical environmental values. In addition to the special management attention identified in the individual ACEC discussions in Chapter 2 and the impacts discussed below, one



regulatory impact would occur upon designation. The *Code of Federal Regulations* at Title 43, Sub-Part 3809 (43 CFR 3809) requires that a plan of operations be submitted for approval by BLM, prior to commencing any surface-disturbing activities conducted pursuant to the 3809 regulations (locatable mineral activities) within a designated ACEC. This requirement affords BLM the opportunity to prepare an EA to identify alternatives and mitigating measures. Where appropriate, a Section 7 consultation for endangered and threatened species and/or a Section 106 consultation for cultural resources must also be conducted, thus reducing or eliminating adverse impacts to these sensitive resources.

Approximately 970,160 acres in five areas would be designated as ACECs to protect and provide for the continued existence of the desert tortoise. Adverse impacts, including habitat loss and direct mortality to tortoises and other wildlife species, would be reduced through operation of the 3809 regulations, by limiting casual OHV use to existing or designated roads and trails, by prohibiting all competitive and non-competitive OHV events and all material site ROWs, and by closure to all mineral material disposals.

Designation of the 83,100 acre Red Rock Canyon NCA as an ACEC would ensure the elimination of adverse impacts such as degradation of visual resources and loss of wildlife habitat as a result of mineral material disposals (i.e. sand and gravel operations). Similar impacts resulting from the operation of the 1872 *Mining Law* on pre-NCA claims would be reduced by mitigation proposed and implemented through the Plan of Operation and EA processes.

Approximately 98,678 acres in 12 other areas would be designated as ACECs to protect other critical resource values, including threatened and endangered species, botanical resources, desert bighorn habitat, cultural and paleontological resources, geological resources, scenic quality and visual resources, and designated natural areas. Adverse impacts such as habitat loss, direct mortality to wildlife species, and degradation of scenic quality would be reduced through the following management actions: operation of the 3809 regulations, limiting casual OHV use to existing or designated roads and trails, prohibiting all competitive and non-competitive OHV events, prohibiting all material site ROWs, and closures or restrictions on all types of mineral exploration and development activities.

## **SOCIO-ECONOMIC VALUES**

Unless specifically analysed below, the impacts to socio-economic values would be the same as those analysed for the No Action Alternative.

### **From Livestock Grazing Management**

Measures required for the protection of the desert tortoise apply under this alternative in the same manner as discussed under the No Action Alternative. Only 11,477 AUMs will be available for livestock grazing and the impacts would be those analysed for the No Action Alternative.

### **From Lands Management**

A total of 155,258 acres are identified for discretionary disposal under this alternative. While it is impossible to predict the number of acres that might successfully be disposed of through sales, some reasonable conclusions regarding values can be drawn.

Based on estimated fair market value applied to potential highest and best use, and assuming that land values would not be affected by the disposal of all or a portion of this acreage, these lands are valued at a total of \$3.2 billion. Assuming assessed valuation at 35 percent of full cash value, these lands would add a total of \$1.1 billion assessed valuation of the two counties and provide an estimated tax revenue of \$22.4

million. On a weighted average per acre basis, average fair market value per acre is estimated at \$20,540; assessed value per acre is estimated at \$7,189, yielding an estimated tax revenue of \$143.94 per acre.

The successful disposal of a large portion of these public lands over the 20-year period could alter the tax base of the two counties to a significant degree. In some cases, local governments could suffer adverse financial impacts from the transfer of these lands to private ownership, should the tax revenues fall short of the cost of providing public services. The provision of these services to new areas is likely to require greater capital outlay and to be less cost efficient than those contained within existing communities.

#### **From Rights-of-Way Management**

Designated corridors would simplify the right-of-way authorization procedures and reduce planning costs for utility companies. Since flexibility in future rights-of-way locations would be lessened under this alternative, the result could be longer transmission lines, increased construction costs, and reduced systems reliability.

#### **From Minerals Management**

Minerals development potential would be reduced under this alternative. Increased demand for sand and gravel and the additional haul distance to reach material sites at more remote locations could provide upward pressure on prices. The economic potential of mineral development cannot be estimated because of the great uncertainty regarding the existence of mineral deposits in sufficient quantity and quality to be commercially feasible. Long-range mineral resource evaluation and market demand are, at best, speculative and dependent on regional, national, and even worldwide factors.



## **ALTERNATIVE B**

Impacts were analyzed for each of the following resources or management programs: air, soils, water, vegetation, riparian resources, visual resources, fish and wildlife habitat, forestry, livestock grazing management, wild horses and burros, cultural resources, lands, natural areas, recreation management, wild and scenic rivers, rights-of-way, wilderness, minerals, acquisitions, fire management, special management areas, and socio-economic values. Only those impacts determined to be significant are included in the following sections.

### **AIR RESOURCE MANAGEMENT**

The impacts to air resources under this alternative would be the same as those analyzed for the No Action Alternative.

### **SOILS MANAGEMENT**

Soils loss figures are based on the total acreage of disturbance that can reasonably be estimated. The acreages of disturbance for each impacting activity, along with the annual soil losses per acre (above that which would occur naturally) are based on soil survey information, literature review, consultation, and field observation. These figures are intended to provide a basis for comparison of impacts and alternatives. Actual soil losses and acreages disturbed could vary from the predicted amounts.

#### **From Livestock Grazing Management**

The impacts from livestock grazing management would be the same as those identified for the No Action Alternative.

#### **From Recreation Management**

Soil surface disturbance, both on existing roads/trails and off-road, would leave soils vulnerable to both water and wind erosion. Competitive OHV use has the potential to significantly impact the soil resource, particularly if events are conducted in areas with highly susceptible soils and/or soils exhibiting a critical erosion condition. Approximately 90,550 acres of highly susceptible soils and 96,994 acres of critical condition are found within the planning area. From an anticipated 9,377 acres of disturbed soils, 6.5 to 27 tons per acre per year can be expected from OHV activities with a resultant average annual loss of 157,065 tons. A majority of the critical erosion condition soils (55,918 acres, 58 percent) and those soils with a high susceptibility to erosion (90,550 acres, 100 percent) are located within the Colorado River drainage system. All of Nellis Dunes, and those portions of Nelson Hills/Keyhole Canyon and Eldorado Valley within the Colorado River drainage contain no soils in a critical erosion condition, soils highly susceptible to erosion or saline soils. Within this drainage, the Nellis Dunes (9,180 acres) would be open to all OHV use and portions of Jean Lake/Roach Lake (10,231 acres), Nelson Hills/Keyhole Canyon (4,117 acres) and Eldorado Valley (3,445 acres) SRMAs would be open to OHV racing. Although Jean Lake/Roach Lake does not have soils in a critical erosion condition or highly susceptible to erosion, it does contain 1,094 acres of saline soils comprising 11 percent of the total area. Since OHV racing within the Colorado River drainage would be limited to areas with minimal erosion problems or potential, impacts to the soil resource would be less than the No Action Alternative, particularly if the saline soils within the Jean Lake/Roach Lake SRMA are avoided. A total of 4,837 acres could be disturbed, from a total of 96,749 acres of critical condition and/or highly susceptible soils within the Colorado River drainage, resulting in an annual loss of 81,027 tons.



The Colorado River drainage system contains 51,020 acres of saline soils of which 2,551 acres would be impacted by OHV use. It is estimated that a soil loss of 7 to 15 tons per acre per year can be expected with a resultant average annual loss of 28,061 tons. Recent data suggest that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from OHV use) within SRA's portion of the drainage are not known at this time, under this alternative salt loading would be expected to be reduced under this alternative.

#### **From Rights-of-Way Management**

The potential for significant impacts to soils as a result of issuing rights-of-way could occur throughout the planning area. Within areas containing soils with a high erosion susceptibility, critical erosion condition and/or saline soils, significant adverse impacts could be expected unless proper mitigation measures are adopted. The SRA, with its low precipitation and resultant arid vegetation communities, is not readily amenable to standard rehabilitation efforts. The soil would remain in a prolonged vulnerable state with the potential for significant wind and water erosion.

Under this alternative, 590 miles of rights-of-way corridors would be designated. These corridors contain 9,985 acres of soils in a critical erosion condition, 16,662 acres of soil highly susceptible to wind and water erosion and 108,099 acres of saline soils. Of these totals, 2,900 acres of soils in a critical erosion condition, 16,662 acres of highly susceptible soils, and 59,917 acres of saline soils are located within the Colorado River drainage system. For comparative purposes, pipeline/powerline rights-of-way are used here as an example of expected soil loss. It can be reasonably anticipated that 6.5 to 27 tons per acre per year would be lost from soil disturbance due to pipeline/powerline construction on 266 acres resulting in, an average annual loss of 4,463 tons from areas containing critical condition soils and highly susceptible soils. Within the Colorado River drainage system, an average loss of 3,277 tons annually could be expected from 196 acres of disturbed ground. An average annual loss of 6,591 tons of saline soils can be expected to be lost from 599 acres of disturbance, further contributing to the Colorado River's salinity problem.

#### **From Minerals Management**

Impacts to the soils from mineral exploration and development would be both temporary and long term. Fluid minerals activities could create minor, primarily associated with road travel and drill pad construction; little activity of this type occurs in the planning area and no increases would be anticipated. Locatable mineral, mineral material sales, and non-energy leasable activities could result in significant soil erosion problems. Areas with a critical erosion condition (96,994 acres), high erosion susceptibility (90,550 acres, and/or saline soils (281,538 acres) would be particularly vulnerable. Soil disturbance from access and haul road construction, the stockpiling of topsoil, and pit construction could be predicted. Impacts from mineral exploration, with proper mitigation and reclamation, would be of a short-term adverse nature while those from mineral development could be expected to be long term. The SRA, with its low precipitation and resultant arid vegetation communities, is not readily amenable to standard rehabilitation efforts. Even after abandonment of mineral developments, soil erosion may continue to be a problem. Under this alternative, 147,786 acres of soils in a critical condition and those highly susceptible to erosion would be open to locatable mineral entry, 125,606 acres to mineral sales and 141,856 acres to non-energy leasables. As a result of soil disturbance from these activities, a soil loss of 6.5 to 27 tons per acre per year for an average total of 12,192 tons from locatable mineral entry, 10,520 tons from mineral sales and 11,880 tons from non-energy leasables could be expected from lands open to such activity. A majority of this soil loss would come from within the Colorado River drainage system (10,341 tons from locatable mineral entry, 10,516 tons from mineral sales and 11,876 tons from non-energy leasables lands). Approximately 170,711 occur within this drainage from which acres of saline soils from which an average annual soil loss of 6,392 tons from locatable mineral entry, 5,936 tons from mineral sales, and 5,296 tons from non-energy leasables lands could further contributing to the Colorado River's existing salinity problems.



## **WATER RESOURCE MANAGEMENT**

### **From Livestock Grazing Management**

The impacts to water resources as a result of livestock grazing management would be the same as those analyzed for the No Action Alternative.

### **From Lands Management**

The impacts to water resources as a result of lands management would be the same as those analyzed for the No Action Alternative.

### **From Recreation Management**

Impacts on surface water could occur as a result of OHV activities. Erosional sedimentation could increase, with a projected annual soils loss of 81,027 tons from 96,749 acres of critical condition and highly susceptible soils in the Colorado River drainage system (6,077 tons of sediment delivered to stream channels). A soil loss of 28,061 tons could be delivered annually from 51,020 acres of disturbed saline soils (2,105 tons to stream channels), further contributing to the river's salinity problems.

### **From Rights-of-Way Management**

The issuance of rights-of-way could impact water quality and quantity throughout the planning area by increasing erosional sedimentation. For comparative purposes, pipeline/powerline rights-of-way were used as an example of expected soil loss. An estimated annual soil loss of 4,463 tons could be anticipated from areas with critical and/or highly susceptible soils (335 tons of sediment delivered to stream channels). Of this total, 3,277 tons of soil loss would occur in the Colorado River drainage (246 tons of sediment delivered to stream channels). A loss of 6,591 tons from saline soils would further contribute to the river's salinity problem (494 tons of sediment delivered to stream channels).

### **From Minerals Management**

Surface water could be impacted by increased erosional sedimentation which results from minerals activities. Under this alternative, sediment transport of 914 tons could occur from locateable mineral entry, 789 tons from mineral sales, and 891 tons from non-energy leaseables on lands open to such activities. Most of this sediment would come from within the Colorado River drainage (776 tons from locateable mineral entry, 789 tons from mineral sales, and 891 tons from non-energy leaseables). Approximately 479 tons of saline sediments from locateable mineral entry, 445 tons from mineral sales, and 397 tons from non-energy leaseables could further contribute to the Colorado River's salinity problems.

## **VEGETATION MANAGEMENT**

Except where specifically identified below, impacts to vegetation resources would be the same as those analyzed in Alternative A.

### **From Recreation Management**

There would be a significant beneficial impact to vegetation resources resulting from a 92 percent decrease in the area available for competitive OHV use, as compared to the current situation. Competitive OHV use would continue to negatively impact vegetation in four areas of approximately 238,162 acres. The actual impacted acreage is expected to be considerably less as a result of topographical constraints, seasonal restrictions, the use of established courses, and public demand, all of which influence the areas in which competitive OHV use



occurs. Specific restrictions would be developed in Special Recreation Management Area plans and individual race prescription plans. Competitive OHV use would also be allowed on approximately 225 miles of existing courses; impacts to vegetation resources would be minimal due to the established nature of these courses. Impacts from competitive OHV use would be of the same type as those analyzed in the No-Action Alternative for repeated, heavy casual OHV use.

#### **From Minerals Management**

All types of mineral exploration and development activities adversely affect vegetation. Depending on the type of mineral activity, from 2,561,798 to 3,828,982 acres would remain open to mineral exploration and development. Impacts of varying intensity could occur to vegetation resources anywhere within this area. Mineral exploration and development activities could physically damage or destroy plants through the use of vehicles, equipment, hazardous materials, and the stockpiling of materials. Revegetation in the planning area would be extremely difficult due to the arid environmental conditions and high temperatures. Soil compaction, the mixing of soil horizons, and the use of chemicals or hazardous materials in areas of minerals activities would further hamper revegetation efforts.

### **RIPARIAN MANAGEMENT**

#### **From Livestock Grazing Management**

The impacts to riparian resources would be the same as those identified under Alternative A.

#### **From Wild Horse and Burro Management**

The impacts to riparian resources would be the same as those identified under Alternative A.

#### **From Riparian Management**

The impacts to riparian resources would be the same as those identified under the No Action Alternative.

### **VISUAL RESOURCE MANAGEMENT (VRM)**

The impacts to visual resource management would be the same as those identified in Alternative A.

### **FISH AND WILDLIFE HABITAT MANAGEMENT**

Except where specifically identified below, the impacts to fish and wildlife resources would be the same as those analyzed in Alternative A.

#### **From Recreation Management**

Off-highway vehicle designations - Acreage open and closed to OHV use would remain the same as under Alternative A. The acreage designated as limited to designated roads and trails would increase by 388,860 acres. This increase can be attributed to changes in ACEC boundaries and the inclusion of two additional ACECs for desert tortoise (California Wash and Indian Springs). Wildlife would benefit under this alternative as the negative impacts associated with off-road activity, including habitat fragmentation and degradation, the proliferation of roads, harassment, vandalism, and direct mortality would be reduced.



### **From Rights-of-Way Management**

Material site ROWs would be excluded from 364,000 acres of Category I tortoise habitat. The desert tortoise would benefit as loss, degradation, fragmentation of habitat, and incidental take associated with materials site ROWs would be reduced in Category I habitat. However, benefits to desert tortoise would be less than under Alternative A as less acreage would be closed to material site ROWs under this alternative. Negative impacts associated with material sites ROW would continue on 982,200 acres within tortoise ACECs.

### **From Minerals Management**

Impacts to wildlife from mineral exploration and development would be similar to those discussed in alternative A except for the following. Category I tortoise habitat would be closed to fluid mineral leasing, mineral materials and non-energy leasables. This would result in positive impacts to desert tortoise as impacts from mineral exploration and development would be decreased. Big Dune ACEC would be closed to the 1872 *Mining Law*, mineral materials disposal and non-energy leasables resulting in positive impacts on candidate species as impacts from mineral exploration and development would be reduced.

### **From Acquisitions Management**

BLM would not attempt to acquire the undeveloped lands conveyed to Aerojet. Desert tortoise could be negatively impacted if the Aerojet lands are developed. Approximately 7,882 acres of potential Category I habitat would be lost, degraded, and fragmented. Tortoise movement would be restricted by fencing and the potential for harassment, collection, and direct mortality increased. The acquisition of private lands within ACECs would positively impact wildlife species as habitats would be consolidated to facilitate management.

### **From Special Management Areas**

Under this alternative, 1,530,838 acres would be designated as ACECs. Approximately 1,346,200 acres of desert tortoise habitat would be managed for the recovery of the desert tortoise. Although acreage within ACECs would increase, impacts to wildlife would be basically the same as under Alternative A.

## **FORESTRY MANAGEMENT**

The impacts to forestry resources would be the same as those analyzed in Alternative A.

## **LIVESTOCK GRAZING MANAGEMENT**

Except as specifically identified below, the impacts to livestock grazing are the same as those identified in Alternative A.

### **From Livestock Grazing Management**

Livestock grazing would continue to be authorized on a total of 2,036,933 acres. Grazing use would continue to be licensed in accordance with the Ephemeral Range Rule for approximately 1,910,045 acres. The Mt. Stirling allotment (126,888 acres) would continue to be classified as ephemeral-perennial with a grazing preference of 1200 AUMs. Eighty-three percent (1,690,655 acres) of the area available for grazing would be subject to the terms and conditions of the desert tortoise/livestock grazing Section 7 consultation.

## **WILD HORSE AND BURRO MANAGEMENT**

Except where specifically identified below, the impacts to wild horse and burro management would be the same as those identified in Alternative A.

### **From Recreation Management**

The elimination of all competitive OHV use in the Muddy Mountain HMA (Gamblers Bitter Springs Hare Scramble) would result in beneficial impacts to wild horses and burros. Forage would not be damaged or destroyed by the passage of OHVs and stress in the wild horses and burros, induced by noise and human proximity, would be reduced or eliminated.

## **CULTURAL RESOURCE MANAGEMENT**

Except where specifically identified below, impacts to cultural resources would be the same as those analyzed in Alternative A. As previously noted, the definition of impacts to cultural resources relies on a minimal concept, implying that any change, no matter how small, to an historic feature, prehistoric site or cultural resource constitutes an impact. Indirect and direct impacts are treated as one under cultural resource management. Thus, the estimated acreages and numbers of cultural resources projected for impacts from each management program should be larger than that calculated for direct impacts.

### **From Fish and Wildlife Habitat Management**

The designation of 1,346,200 acres as tortoise ACECs and 47,678 acres for other ACECs (total of 1,404,358 acres) would aid in the preservation of 2,800 eligible sites by restricting and inhibiting potentially threatening actions in the following zones: Piute Valley, Eldorado Valley, portions of the Goodsprings Valley, Meadow Valley Mountains, Virgin Mountains, Muddy Mountains, and the Arrow Canyon Range.

### **From Lands Management**

The availability for leases, permits, rights-of-way and disposal of 1,224,985 acres of public lands has the potential to affect up to 2,500 eligible archeological sites. Approximately 1,902,400 acres would be excluded from leases, permits, and disposals, aiding in the preservation of 3,800 eligible sites. Although lands management actions under this alternative have less potential to impact sites than under the No Action Alternative and Alternative A, significant effects to cultural resources could still be anticipated.

### **From Minerals Management**

Locatable mineral activity on 3,158,567 acres has the potential to affect 7,300 eligible sites, while saleable mineral disposal on 2,561,798 acres could impact 5,400 eligible properties. Solid leaseable mineral uses on 3,522,205 acres could affect 7,300 eligible sites and fluid leaseable mineral activities on 1,833,000 acres has the potential to impact 3,800 eligible sites. The minerals program could significantly impact cultural resources in the planning area.



## **LANDS MANAGEMENT**

Except where specifically identified below, impacts to lands management would be the same as those analyzed in Alternative A.

### **From Lands Management**

Disposal Areas - This alternative would provide approximately 540,171 acres of public land in the SRA for discretionary disposal through sale, exchange, color-of-title or R&PP patent for the future growth and development of individual communities within the planning area. Of the lands identified, 99,391 acres are located in the Las Vegas Valley, where a fragmented growth pattern and an easement identification problem has occurred on approximately 23,000 acres of these lands.

Under this alternative, approximately 540,171 acres of public land would be available for R&PP leases, providing lands for community development at less than fair market value. Lands would be available for schools, libraries, hospitals, community centers, parks, public golf courses, fire stations, churches, community buildings, law enforcement facilities, correctional institutions, water and sewage treatment facilities, and other types of public uses.

Lease Areas - Approximately 1,257,159 acres of public land (with the exception of ACECs) would be available for land use leases and permits through Section 302 of FLPMA. The unauthorized use of public lands could be resolved with such leases and permits, with rental collected at fair market value. The general public could acquire the use of public lands, another source of Federal revenue would be generated, and multiple-use management goals met.

Under this alternative, approximately 1,257,159 acres of public land would be available for airport leasing. This would provide communities with airport facilities which they could not otherwise afford to purchase, and multiple-use management goals would be met. No airport leases will be authorized within ACECs.

### **From Rights-of-Way Management**

Approximately 540,247 acres of public land would be designated for utility corridors. Utility corridors would range in width from 1 mile to 3 miles for a total length of approximately 590 miles. Designation of corridors would lessen the encumbrances on public lands which result from randomly placed, single-use utility lines; these encumbrances could lower the appraisal value of those lands identified for disposal. Conversely, the potential exists for a loss of approximately 77,124 acres of public land identified for disposal throughout the planning area.

### **From Minerals Management**

Approximately 65,998 acres of public land high in sale value within the Las Vegas and Laughlin areas would be withdrawn from all mineral entry and development. This alternative would also identify approximately 3,828,982 acres of public land as open for fluid, 3,158,567 acres for locatable, 2,561,798 acres for saleable, and 3,522,205 acres for leasable entry and development, unless segregated from entry, withdrawn, or classified for other purposes. Mineral entry and development encumbers the land and lowers the appraisal values. High potential mineral value could also preclude disposal of the lands. Other significant impacts to the lands disposal program would include so-called "nuisance" claims. This type of claim has been filed on lands known for their high sale value. In cases where the mining claimant has refused to relinquish the claims, the individual or agency applying for the land disposal has been forced to buy out the claimant. The processing of validity tests on the claims, an expensive and time-consuming procedure, would be another mechanism for ridding sale parcels of "nuisance" claims.



## **NATURAL AREAS MANAGEMENT**

The impacts to natural areas would be the same as those analyzed in Alternative A.

## **RECREATION MANAGEMENT**

The impacts to the recreation management program would be the same as those identified for Alternative A, except in those areas analyzed below.

### **From Fish and Wildlife Habitat Management**

Unless specifically analyzed below, the impacts to recreation management would be the same as those analyzed under Alternative A.

Proposed tortoise ACECs would eliminate OHV competitive events on 1,346,200 acres in the resource area. This would directly affect the following historically held events: five motorcycle events in the Piute Valley, one motorcycle event in the Mormon Mesa/Moapa area, a motorcycle event in the Ivanpah area, and one motorcycle and one buggy event in the Goodsprings Valley area. Approximately 4,000 participants (racers, pit, and chase crews) and 5,000 spectators would be affected annually. Users would be displaced to other areas such as the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. Use would increase in the Nelson Hills by 50 percent, in the Jean/Roach Dry Lake area by 25 percent, and in the Nellis Dunes by 50 percent. The Eldorado Valley area use would remain constant.

Recreational uses such as OHV touring and free-play, hunting, camping, picnicking, and other recreational competitive and commercial activities could be restricted, eliminated, or entirely displaced to other locations by motorized vehicle limitations designed to protect desert tortoise habitat. Motorized vehicle closures or limitations in tortoise management ACECs could directly affect 10 percent of all visitor use in SRA (or approximately 173,772 visitor days). Motorized vehicle limitation would cause an increase in semi-primitive motorized recreation opportunities from roaded natural opportunities in the Mormon Mesa, Coyote Springs, and Ivanpah ACECs. The total gain of semi-primitive motorized recreation opportunities would be approximately 416,000 acres.

### **From Lands Management**

Unless specifically discussed below, the impacts to recreation management would be the same as those identified for Alternative A.

Disposal of lands within the Dry Lake Valley would affect and possibly eliminate one OHV event per year, affecting approximately 400 racers, 2,000 pit and support crew members, and upwards of 10,000 spectators. Disposal of 62,879 acres of lands near Jean and Roach Dry Lakes would adversely affect one of the major OHV race and recreation areas in southern Nevada. As many as four significant OHV events in southern Nevada, including the Gold Coast 300, SNORE 250, and the Gold Strike Championship Hare and Hound Motorcycle Event, could be affected by this action, with the loss of 75,000 visitor days per year. Other activities affected by disposal of these lands would include two horse endurance events, two model airplane events, two dog trials, one hot air balloon commercial operator, up to 10 commercial film and photography permits, hang gliders, OHV recreationists, and campers. Should all 128,401 acres of land involved in the Eldorado Valley Land transfer area be relinquished to the state of Nevada or to some other entity, a significant loss of recreation opportunities could occur. Six OHV events, two model airplane events, one commercial ultralight plane operator, and thousands of OHV, camping, ultralight, light aircraft, model rocket, hunting, and other dispersed recreationists per year that could be affected through either displacement or elimination of opportunities. Total use either displaced or eliminated could exceed 50,000 visitor days annually.



## **From Minerals Management**

Within Big Dune, 1,000 acres would be available for leasing of fluid minerals, subject to no surface occupancy, closed to operation under the 1872 *Mining Law*, closed to mineral materials disposal, and authorization/renewal of material site right-of-way, and closed to non-energy mineral activity. All other lands located within SRMAs would be available for all forms of mineral development. Potential mineral development would increase access to some areas, opening up additional OHV race courses as well as increasing visitation, impair visual and aesthetic values, and displace visitors and other recreational users from traditional areas.

## **From Special Management Areas**

Management of special management areas would eliminate OHV competitive events on 1,530,838 acres. Elimination of these events would directly affect five motorcycle events in the Piute Valley, one motorcycle event in the Mormon Mesa/Moapa area, one motorcycle event in the Ivanpah area, and one motorcycle and one buggy event in the Goodsprings Valley area. This loss would directly affect 4,000 participants (racers, pit and chase crews) and 5,000 spectators per year. Users would be displaced to other areas such as the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. This displacement would increase use in the Nelson Hills by 50 percent, in the Jean/Roach Dry Lake area by 25 percent, and in the Nellis Dunes by 50 percent. Use in the Eldorado Valley area would remain constant.

Management of special management areas would designate 1,513,728 acres as limited to designated roads and trail and 12,190 acres as closed to all motorized uses. Impacts to recreational use would be limited to the Sunrise Mountain area where ensuring that users are limited to designated roads and trails would be difficult due to the vast network of existing roads and trails and intensive of existing use.

## **WILD AND SCENIC RIVERS MANAGEMENT**

The impacts to wild and scenic rivers would be the same as those identified in Alternative A.

## **RIGHTS-OF-WAY MANAGEMENT**

The impacts to the rights-of-way management would be the same as those identified in Alternative A, with the following exceptions.

### **From Rights-of-Way Management**

Under this alternative approximately 9 percent of the public lands within the resource area would be designated as right-of-way exclusion areas. Right-of-way exclusion areas would be limited to the following:

No material site rights-of-way will be authorized within Category I desert tortoise habitat.

Public land within the SRA totaling 364,000 acres would be lost for material site development.

Approximately 63 percent of the public lands within the resource area would be designated as right-of-way avoidance areas. Areas of concern would be limited to the following (exclusive of any designated corridors):

All ACECs  
Semi-primitive nonmotorized ROS areas  
Significant caves (within 1/4 mile)  
Wilderness Study Areas

This would constitute a potential loss of approximately 2,317,745 acres of public land available for all types of rights-of-way.

## **WILDERNESS MANAGEMENT**

The impacts to wilderness resources would be the same as those identified in Alternative A.

## **MINERALS MANAGEMENT**

### **From Lands Management**

Assuming the salable mineral estate is sold along with the surface estate, disposal of 99,391 acres of the approximately 108,107 acres of public lands within the Las Vegas Valley would significantly decrease the availability of both silt to the landscape industry and sand and gravel to the building industry. Construction of housing and other structures upon these lands would significantly increase the demand for silt, sand, and gravel which would already be in short supply within the Las Vegas Valley.

The proposed withdrawal of approximately 111,524 acres of Las Vegas and Laughlin Land Disposal Areas would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. The withdrawal would close approximately 111,524 acres to mining claim location, mineral leasing, and mineral material disposal.

### **From Acquisitions Management**

Assuming that the current owners would be willing to sell, approximately 9,049 acres of private land could be acquired during the life of the RMP. These lands would be available for all forms of mineral exploration and development unless specifically closed by legislative mandates or by subsequent administrative action taken in conformance with the RMP.

### **From Special Management Areas**

The designation of ACECs will require that a plan of operation be approved prior to commencing any mining operation, except casual use, in those areas. The 19 proposed withdrawals, totaling approximately 1,511,118 acres of ACECs would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. Fourteen of the withdrawals would close approximately 175,938 acres to mining claim location, 18 of the withdrawals would close approximately 1,465,138 acres to mineral material disposal, 16 of the withdrawals would close approximately 544,938 acres to solid mineral leasing, and 15 of the withdrawals would close approximately 543,938 acres to fluid mineral leasing. Of the approximately remaining 967,180 acres, approximately 10,600 acres remain open subject to no surface occupancy and similar major constraints; approximately 956,580 acres remain open subject to seasonal and other minor constraints.

## **ACQUISITIONS MANAGEMENT**

Under this alternative, where the lands are available and the current owner is willing to sell, the BLM would attempt to acquire approximately 9,049 acres of private land within the following:

All designated ACECs containing private lands (approximately 8,634 acres)  
Ash Meadows ACEC but, outside the refuge boundary (approximately 415 acres)



These lands would be included within applicable designated ACECs. Additional lands to be acquired if the opportunity arises would include all private lands within Category I and II desert tortoise habitat as described in the Special Management Areas section of this alternative.

The BLM would attempt to obtain an easement on the Pabco Tram Road which is an exclusive right-of-way. Obtaining an easement would enhance multiple-use management of public lands closed to access because of the exclusive access rights exercised by the current right-of-way holder.

## **FIRE MANAGEMENT**

The impacts to fire management would be the same as those identified for Alternative A.

## **SPECIAL MANAGEMENT AREAS**

The discussion below is a summary of the impacts anticipated to occur from designation of ACECs. The impacts to a specific program or resource are analyzed in more in detail in the appropriate program or resource discussion.

### **From Special Management Areas**

A total of 20 ACECs, encompassing approximately 1,530,838 acres, would be designated, thereby providing special management attention to protect critical environmental values. In addition to the special management attention identified in the individual ACEC discussions in Chapter 2 and the impacts discussed below, one regulatory impact would occur upon designation. The *Code of Federal Regulations* at Title 43, Sub-Part 3809 (43 CFR 3809) requires that a plan of operations be submitted for approval by BLM prior to commencing any surface disturbing activities conducted pursuant to the 3809 regulations (locatable mineral activities) within a designated ACEC. This requirement affords BLM the opportunity to prepare an EA to identify alternatives and mitigating measures, and where appropriate, to conduct a Section 7 consultation for endangered and threatened species and/or a Section 106 consultation for cultural resources, thereby reducing or eliminating adverse impacts to these sensitive resources.

Approximately 1,346,200 acres in eight areas would be designated as ACECs to protect and provide for the continued existence of the desert tortoise; adverse impacts such as habitat loss and direct mortality to tortoises and other wildlife species would be reduced through operation of the 3809 regulations, limiting casual OHV use to existing or designated roads and trails, prohibiting all competitive and non-competitive OHV events, prohibiting all material site ROWs, and closure to all mineral material disposals. In Category I tortoise habitat, impacts would be further reduced by closure to all mineral materials disposal, non-energy mineral leasing and fluid mineral leasing.

Designation of the 83,100 acre Red Rock Canyon NCA as an ACEC would ensure the elimination of adverse impacts such as degradation of visual resources and loss of wildlife habitat resulting from mineral material disposals (i.e. sand and gravel operations). Adverse impacts such as degradation of visual resources and loss of wildlife habitat resulting from operation of the 1872 *Mining Law* on pre-NCA claims would be reduced by mitigation proposed and implemented through the plan of operation and EA processes.

Approximately 101,538 acres in 11 separate areas would be designated as ACECs to protect other critical resource values, including threatened and endangered species, botanical resources, desert bighorn habitat, cultural and paleontological resources, geological resources, scenic quality and visual resources, and designated natural areas. Adverse impacts such as habitat loss, direct mortality to wildlife species, and degradation of scenic quality would be reduced through operation of the 3809 regulations, limiting casual OHV use to existing

or designated roads and trails, prohibiting all competitive and non-competitive OHV events, prohibiting all material site rights-of-way, and closures or restrictions on all types of mineral exploration and development activities.

## **SOCIO-ECONOMIC VALUES**

The impacts to socio-economic values, unless specifically discussed below, would be the same as those analysed for Alternative A.

### **From Lands Management**

Under this alternative, a total of 540,171 acres of public land have been identified for possible transfer to private ownership. Should such transfers be accomplished within the next 20 years, the change in land ownership pattern could significantly alter the tax base in Clark and Nye Counties. Based on estimated fair market value applied to the potential highest and best use (and assuming that land values would not be affected by the disposal of all or a portion of this acreage), these lands could be valued at \$6.6 billion. The sale of the total available acreage would add \$2.3 billion to the total assessed valuation of the counties and produce an estimated tax revenue of \$45.9 million. On a weighted average per acre basis, average fair market value per acre is estimated at \$12,130; assessed value per acre is estimated at \$4,245, yielding an estimated tax revenue of \$845.83 per acre.

Local governments could suffer adverse financial effects as a result of the transfer of these lands to private ownership, should the tax revenues fall short of the cost of providing public services. The provision of these services to new areas would likely require greater capital outlay and be less cost efficient than similar services within existing communities.

Sales or other disposal areas would likely be located along or near highways and utility services, thus strip development would tend to occur throughout the planning unit. The suitability of land for development will be significantly influenced by the legal and physical limitations of water.



## **ALTERNATIVE C**

Impacts were analyzed for each of the following resources or management programs: air, soils, water, vegetation, riparian resources, visual resources, fish and wildlife habitat, forestry, livestock grazing management, wild horses and burros, cultural resources, lands, natural areas, recreation management, wild and scenic rivers, rights-of-way, wilderness, minerals, acquisitions, fire management, special management areas, and socio-economic values. Only those impacts determined to be significant are included in the following sections.

### **AIR RESOURCE MANAGEMENT**

#### **From Lands Management**

The impacts to the air resource as a result of lands management would be the same as those identified for the No Action Alternative.

#### **From Recreation Management**

Despite limitations placed on competitive OHV use under this alternative, significant amounts of particulate matter could potentially be produced in areas where soils are particularly susceptible to erosion. Approximately 90,550 acres have a high erosion susceptibility and approximately 1,306,628 acres are moderately susceptible in the planning area. Surface disturbances, both on existing roads/trails and off-road, would leave soils vulnerable to wind erosion, creating wind-blown dust production in these areas. Such dust would be of particular concern within the Las Vegas Valley Non-Attainment Area, where particulate matter already exceeds Air Quality Standards. Events held within the valley or upwind of the valley would result in a short-term further degradation of Las Vegas Valley's air quality.

#### **From Minerals Management**

The impacts to the air resource would be the same as those analyzed under the No Action Alternative.

### **SOILS MANAGEMENT**

Soil loss figures are based on the total acreage of disturbance that could reasonably be estimated. The acreages of disturbance for each impacting activity, along with the annual soil losses per acre (above that which would occur naturally) are based on soil survey information, literature review, consultation, and field observations. These figures are intended to provide a basis for comparison of impacts and alternatives. Actual soil losses and acreages disturbed could vary from the predicted amounts.

#### **From Livestock Grazing Management**

Under this alternative, 21,050 acres of soils in a critical erosion condition and 9,174 acres of soils highly susceptible to erosion would be disturbed by livestock grazing. Grazing within these areas could be expected to result in an increased soil loss of approximately 5 to 10 tons per acre per year for an average total annual loss of 224,655 tons. The active allotments containing critical condition (cc) and highly susceptible (hs) soils are listed below with the annual increases in soil loss that could be expected.



Azure Ridge - 6,502 acres (cc)	48,765 tons
Dry Lake - 270 acres (hs)	0 tons
Flat Top Mesa - 1,860 acres (cc), 2,328 acres (hs)	31,410 tons
Jackrabbit - 4,266 acres (cc), 2,596 acres (hs)	51,465 tons
Mesa Cliff - 8,422 acres (cc), 3,980 acres (hs)	93,015 tons

Two active allotments contain saline soils, totaling 22, 178 acres, located entirely or partially within the Colorado River drainage system. Grazing within the saline soil areas could be expected to result in an increased soil loss of 3 to 7 tons per acre per year, for an average total annual soil loss of 1,905 ton. Recent data indicate that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from livestock grazing) within SRA's portion of the drainage are not known at this time, salt loading would be expected to continue at the current rate or increase, particularly within the C category allotments. The active allotments containing saline soils are listed below with the annual increase in soil loss anticipated to occur.

Dry Lake - 21,797 acres of saline soils	0 tons
Flat Top Mesa - 381 acres of saline soils	1,905 tons

### **From Recreation Management**

Soil surface disturbance, both on existing roads/trails and off-road, would leave soils vulnerable to both water and wind erosion. Competitive OHV use has the potential to significantly impact the soil resource, particularly if events are conducted in areas with highly susceptible soils and/or soils exhibiting a critical erosion condition. Approximately 90,550 acres of highly susceptible soils and 96,994 acres of critical condition soils occur in the planning area. From an anticipated 9,377 acres of disturbed soils, 6.5 to 27 tons per acre per year could be generated from OHV activities with a resultant average annual loss of 157,065 tons. A majority of the critical erosion condition soils (55,918 acres, 58 percent) and those soils with a high susceptibility to erosion (90,550 acres, 100 percent) are located within the Colorado River drainage system. All of Nellis Dunes and those portions of Nelson Hills/Keyhole Canyon and Eldorado Valley lying within the Colorado River drainage contain no soils in a critical erosion condition, soils highly susceptible to erosion, or saline soils. Within this drainage, the Nellis Dunes (9,180 acres) would be open to all OHV use and portions of Jean Lake/Roach Lake (10,231 acres), Nelson Hills/Keyhole Canyon (4,117 acres), and Eldorado Valley (3,445 acres) SRMAs would be open to OHV racing. Although Jean Lake/Roach Lake does not have soils in a critical erosion condition or highly susceptible to erosion, it does have 1,094 acres of saline soils, 11 percent of the total area. Since OHV racing within the Colorado River drainage would be limited to areas with minimal erosion problems or potential, impacts to the soil resource would be less than the No Action Alternative, particularly if the saline soils within the Jean Lake/Roach Lake SRMA are avoided. A total of 5,667 acres could be disturbed out of 94,919 acres of critical condition and/or highly susceptible soils within the Colorado River drainage system for an average annual loss of 79,495 tons.

Within the Colorado River drainage system, 2,404 acres of saline soils (of 48,083 total acres) could be impacted by OHV use. A soil loss of 7 to 15 tons per acre per year could be predicted with a resultant average annual loss of 26,446 tons. Data suggests that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from OHV use) within SRA's portion of the drainage are not known at this time, salt loading would be reduced under this alternative.



## **From Rights-of-Way Management**

The potential for significant impacts to the soils could occur throughout the planning area, depending on where and for what purpose a right-of-way is issued. In areas of soils with a high erosion susceptibility, critical erosion condition, and/or saline soils, significant adverse impacts could be sustained unless proper mitigation measures are adopted. The low precipitation and arid vegetation communities do not make the area amenable to standard rehabilitation efforts. The soil is left in a prolonged vulnerable state with the potential for significant wind and water erosion. Under this alternative, 476 miles of rights-of-way corridors would be designated within the SRA. These corridors contain 9,985 acres of soils in a critical erosion condition, 16,662 acres of soil highly susceptible to wind and water erosion, and 93,779 acres of saline soils. Of these totals, 2,900 acres of soils in a critical erosion condition, 16,662 acres of highly susceptible soils, and 46,680 acres of saline soils are located within the Colorado River drainage system. For the purpose of alternative comparison, pipeline/powerline rights-of-way were used as an example of expected soil loss. It can be reasonably anticipated that 6.5 to 27 tons per acre per year would be lost from soil disturbance due to pipeline/powerline construction on 266 acres. An average annual loss of 4,463 tons from areas containing critical condition soils and highly susceptible soils could be predicted. Within the Colorado River drainage system, an average loss of 3,277 tons annually could occur from 196 acres of disturbances. An average annual loss of 5,135 tons of saline soils could be expected from 467 acres of disturbance, further contributing to the Colorado River's salinity problem.

## **From Minerals Management**

Impacts to the soils from mineral exploration and development would be both temporary and long term. Fluid mineral activities could create minor impacts, primarily associated with road travel and drill pad construction; little activity of this type occurs in the planning area and no increases are anticipated. Locatable mineral, mineral material sales, and non-energy leasable activities could result in significant soil erosion problems. Areas with a critical erosion condition (96,994 acres), high erosion susceptibility (90,550 acres), and/or saline soils (281,538 acres) would be particularly vulnerable. Soil disturbance would result from both mineral exploration and development including access and haul road construction, stockpiling of topsoil, and pit construction. Mineral exploration, with proper mitigation and reclamation, would constitute a short-term adverse impact whereas mineral development could be expected to be of a long-term nature. The low precipitation and resultant arid vegetation communities of the planning area are not conducive to standard rehabilitation efforts. Even after the abandonment of mineral developments, soil erosion may continue to be a problem. Under this alternative, 130,359 acres of soils in a critical condition and those highly susceptible to erosion would be open to locatable mineral entry, 130,996 acres to mineral sales, and 119,707 acres to non-energy leasables. As a result of soil disturbance from these activities, a soil loss of 6.5 to 27 tons per acre per year, for an average total of 10,755 tons from locatable mineral entry, 18,807 tons from mineral sales, and 9,876 tons from non-energy leasables could be expected from lands open to such activity. A majority of this soil loss would come from within the Colorado River drainage system (10,329 tons from locatable mineral entry, 9,915 tons from mineral sales and 9,252 tons from non-energy leasables lands). Also within this drainage system are 170,711 acres of saline soils from which a maximum annual soil loss of 4,231 tons from locatable mineral entry, 4,556 tons from mineral sales, and 4,175 tons from non-energy leasables lands could be anticipated, further contributing to the Colorado River's existing salinity problem.

## **WATER RESOURCE MANAGEMENT**

### **From Livestock Grazing Management**

An impact on surface water could be expected, resulting in potential changes in water quality, quantity, and timing. Livestock grazing is considered to be the major contributor of coliform bacteria contamination occurring in most surface water sources of the planning area. Approximately 94 percent of spring sources are currently



contaminated. Under this alternative, some improvement on 42 spring sources should be realized as a result of reduced grazing activity.

The greatest impact on the water resource results from erosional sedimentation. An estimated 5 to 10 percent of eroded soil actually reaches surface water sources within the planning area. A soil loss of 224,655 tons could be expected annually from 30,224 acres of critical condition and highly susceptible soil areas (16,849 tons of sediment delivered to stream channels). Grazing within the 22,178 acres of saline soils could deliver 143 tons of sediment to stream channels within the Colorado River drainage. The data suggest that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from livestock grazing) within the SRA's portion of the drainage are not known at this time, salt loading from grazing would be expected to decrease as grazing activity decreases.

#### **From Lands Management**

The impacts to water resources would be the same as those identified for the No Action Alternative.

#### **From Recreation Management**

Impacts from OHV events could accelerate erosion and sedimentation, thus affecting the quality and quantity of surface water. A soil loss of 79,495 tons could be expected annually from 94,919 acres of critical condition and highly susceptible soil areas within the Colorado River drainage system (5,962 tons of sediment delivered to stream channels). Within this drainage an annual soil loss of 26,446 tons could be predicted from 48,083 acres of saline soils (1,983 tons of sediment delivered to stream channels).

#### **From Rights-of-Way Management**

Significant impacts could result from the issuance of right-of-ways in the planning area. Erosional sedimentation would cause the greatest changes in water quality and quantity. For the purposes of alternative comparison, pipeline/powerline rights-of-way are used as an example of expected soil loss. An annual soil loss of 4,463 tons could be expected from areas with critical and/or highly susceptible soils (335 tons of sediment delivered to stream channels). Of this total, 3,277 tons of soil loss could occur within the Colorado River drainage system (246 tons of sediment delivered to stream channels). Also within this drainage 5,135 tons of soil loss could be predicted from areas containing saline soils, further contributing to salt loading of the Colorado River (385 tons of sediment delivered to stream channels).

#### **From Minerals Management**

Surface water could sustain impacts from minerals activities which would accelerate erosion and sedimentation. An annual sediment transport of 807 tons could be expected from locatable mineral entry, 1,411 tons from mineral sales, and 741 tons from non-energy leasables from lands open to such activity. A majority of this sediment would come from within the Colorado River drainage system (775 tons from locatable mineral entry, 744 tons from mineral sales and 694 tons from non-energy leasables lands). Approximately 317 tons of saline sediment from locatable mineral entry, 342 tons from mineral sales, and 313 tons from non-energy leasables lands could be produced within this drainage, further contributing to the Colorado River's existing salinity problem.



## **VEGETATION MANAGEMENT**

Except where specifically identified below, the impacts to vegetation resources would be the same as those analyzed in Alternative A.

### **From Livestock Grazing Management**

Vegetative resources on approximately 2,669,360 acres of public lands would not be impacted by livestock grazing. Approximately 875,335 acres currently closed to livestock grazing would remain closed and an additional 1,696,970 acres of public lands would be closed.

Vegetation would continue to be impacted by livestock grazing on approximately 1,001,767 acres; these lands would be grazed in accordance with Prescription 2 of the desert tortoise/livestock grazing Section 7 consultation. Specific impacts related to this activity would include repeated and heavy removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor, while immature individuals would have difficulty in becoming established. Physical damage to both forage and non-forage species could result from trampling. Grazing use would be keyed to specific utilization levels, depending on season of use, which would lessen the adverse impacts associated with year-long grazing. If grazing use exceeds these levels, livestock would be removed from the allotment. Further adverse impacts to vegetation from grazing would then be eliminated. In the long term, species diversity and ecological condition should be maintained.

## **RIPARIAN MANAGEMENT**

### **From Livestock Grazing Management**

Grazing impacts would be concentrated in riparian areas. An estimated 70 percent of the spring-associated riparian areas of the planning area are in poor condition, while those areas associated with perennial streams are in poor to fair condition. Grazing within riparian areas prevents regeneration of desirable vegetative types, compacts soil, increases surface salinity, hinders plant growth, and can lower the water table. Under this alternative, the Ash Meadows, Virgin River Bottom, and Muddy River Allotments would be closed to livestock grazing. An additional 2,835 acres along the Meadow Valley Wash and Virgin River would also be closed to livestock grazing, aiding in the protection of the Ash Meadows, Virgin River, and Muddy River riparian zones. The spring-associated riparian areas would continue to deteriorate, as under the No Action Alternative. Of the 200 springs currently identified within the SRA, 38 are located within two active allotments (approximately 19 acres of riparian zone).

### **From Wild Horse and Burro Management**

The impacts to riparian resources would be the same as those analyzed for Alternative A.

### **From Riparian Management**

The impacts to riparian resources would be the same as those identified for the No Action Alternative.

## **VISUAL RESOURCE MANAGEMENT**

The impacts to visual resource management would be the same as those analyzed in Alternative A.



## **FISH AND WILDLIFE HABITAT MANAGEMENT**

Except where specifically identified below, the impacts to fish and wildlife resources would be the same as those analyzed in Alternative A.

### **From Livestock Grazing Management**

Under this alternative, 2,699,360 acres would be closed to livestock grazing. There would be a beneficial impact on wildlife as impacts associated with grazing would be eliminated over much of the resource area. The closure of tortoise habitat to livestock grazing would eliminate the competition between livestock and tortoises for forage. Tortoises and their burrows would not be trampled by livestock. Over the long term, the quality of tortoise habitat would improve. Rest from grazing would allow an increase in desirable plant species, composition, and ground cover. Increased plant species diversity and lack of competition for forage would better provide for the nutritional needs of the desert tortoise, reducing the incidence of malnutrition. Better overall tortoise health would increase resistance to URTD, resulting in more vigorous populations. Adult mortality could be reduced to less than 2 percent annually and the incidence of osteoporosis in younger animals would decrease. Clutch size and annual recruitment should increase to 3-5 percent annually. Improved vegetative cover would reduce the rate of predation on hatchling and juvenile tortoises. Tortoise habitat within ACECs would be managed to allow for the recovery of the species.

Desert bighorn sheep would also benefit under this alternative. The potential for contact between bighorn and cattle would be greatly reduced, lowering the possibility for disease transmission. Competition for water in Highland Hills would be eliminated after closure of the McCullough Mountains Allotment to livestock grazing. The current bighorn population in the Highland Hills is estimated at only 25 animals. Without competition from livestock, the population would be expected to increase significantly. Increases in both mule deer and bighorn sheep populations would also be expected in the South McCullough Mountains. Domestic sheep grazing would be eliminated from the Resource Area. Desert bighorn sheep would be positively impacted as the potential for disease transmission from domestic sheep would be eliminated.

The 1,001,767 acres which would remain open to livestock grazing would be managed under grazing Prescriptions 1 and 2. Impacts to wildlife would be the same as under Alternative A.

### **From Lands Management**

Section 302 Leases - No public lands within the planning area would be available for land use leases and permits under Section 302 of FLPMA. Wildlife would benefit under this alternative, as fragmentation and degradation of habitat would be reduced. Large blocks of habitat would be maintained to support viable populations of wildlife. Springs and associated riparian habitats would be preserved.

### **From Recreation Management**

Off-road vehicle designations - Under this alternative, closed acreage would increase by approximately 1,000 acres, compared with Alternative A. Big Dune would be closed to all OHV use, resulting in a positive impact on candidate species. Nearly 100 percent of the habitat for four candidate species would be protected from degradation. Mortality of these species due to off-road activity would be eliminated.

### **From Rights-of-Way Management**

Under this alternative, no corridor would traverse the southern portion of the Coyote Springs/Arrow Canyon ACEC. Proposed lines would be routed east along State Highway 93, to I-15 and south to Las Vegas. The corridor through the Indian Springs ACEC would be eliminated. The elimination of these two corridors would have a beneficial impact on tortoise. The Coyote Springs/Arrow Canyon and Indian Springs ACECs are long



and narrow, squeezed between mountain ranges. The construction of powerlines through these areas would have a greater impact on tortoise than in other ACECs. Due to the shape of the ACECs, a powerline would provide perching sites for predatory birds along the entire length of the ACEC. The home ranges of a greater number of individual animals would be likely to be affected, leading to a higher incidental take during the construction of projects. Other impacts associated with ROWs would be the same as under Alternative A.

Big Dune would be designated as a ROW exclusion area, resulting in beneficial impacts on candidate species. Impacts associated with ROWs, including habitat degradation and direct mortality during construction, would be precluded.

#### **From Minerals Management**

Negative impacts to wildlife from mineral exploration and development would be greatly reduced under this alternative. All wildlife ACECs would be closed to fluid mineral leasing, locatable mineral entry, mineral materials and non-energy leasables. Wildlife would benefit under this alternative. Wildlife habitat would be protected from the habitat loss, degradation, and fragmentation associated with mineral exploration and development. The potential for direct mortality and harassment would be reduced. Additional protection for tortoise ACECs would assist in the recovery of the species.

#### **From Special Management Areas**

Threatened and endangered species and other wildlife would benefit as 1,538,298 acres are designated as ACECs under this alternative. Approximately 1,356,680 acres of desert tortoise habitat would be managed for the recovery of the desert tortoise; the California Wash and Indian Springs areas would also become tortoise ACECs.

### **FORESTRY MANAGEMENT**

The impacts to forestry would be the same as those identified in Alternative A.

### **LIVESTOCK GRAZING MANAGEMENT**

Except where specifically identified below, impacts to livestock grazing would be the same as analyzed in Alternative A.

#### **From Fish and Wildlife Habitat Management**

Management and protection of habitat of threatened animal species would have severe, long-term adverse effects on livestock grazing and the ranching industry. No grazing would be authorized on the 1,356,680 acres which comprise TMAs/ACECs, in order to eliminate competition for forage. The elimination of grazing from these areas would mean a loss of approximately 20,000 AUMs of livestock forage and the loss of grazing privileges for 34 permittees on 35 allotments (see Table 4-1).

#### **From Livestock Grazing Management**

Approximately 1,001,767 acres of public lands within the planning area would be available for domestic livestock grazing. Grazing use would be authorized in accordance with the terms of the desert tortoise/livestock grazing Section 7 consultation (see analysis in Alternative A), and would be based on total forage production (both ephemeral and perennial), in accordance with the Ephemeral Range Rule.



Approximately 2,669,360 acres of public lands in the planning area would be closed to all domestic livestock grazing. This figure includes 818,477 acres of closures carried forward as valid existing management, one allotment encompassing 72,277 acres closed for lack of base property, two allotments encompassing 20,171 acres closed due to conflicts with riparian management, approximately 2,835 acres along the Meadow Valley Wash and Virgin River floodplains and riparian zones. An additional 30 allotments, comprising approximately 1,755,600 acres, would be closed to prevent impacts to desert tortoise within 1,356,680 acres of TMAs/ACECs. When grazing is eliminated from those portions of an allotment contained within a TMA/ACEC, the remaining portion of the allotment becomes unusable due to a lack of water, forage, or area needed to maintain an economically viable grazing operation. The difference in acreage between the allotments closed to grazing and the TMAs/ACECs reflects this situation.

All domestic sheep grazing would be eliminated from the planning area, affecting one allotment comprising 24,577 acres of public land. A loss of grazing equating to approximately 450 AUMs per year would occur under this alternative. Trailing use on the Bunkerville, Hen Springs, and Mesquite Community Allotments would be eliminated; the loss in AUMs would be negligible.

## **WILD HORSE AND BURRO MANAGEMENT**

Except where specifically identified below, the impacts to wild horses and burros would be the same as those analyzed in Alternative A.

### **From Livestock Grazing Management**

Livestock grazing on two active grazing allotment (Azure Ridge and White Basin) would continue to impact wild horse and burro management, affecting approximately 60,000 acres in two HMAs (Gold Butte and Muddy Mountains). Livestock would compete with wild horses and burros for forage, space, and water. Allotment boundary fences and interior pasture fences would continue to present a physical hazard to wild horses and burros, restricting their wild and free-roaming nature in some instances.

## **CULTURAL RESOURCE MANAGEMENT**

Except where specifically identified below, the impacts to cultural resources would be the same as analyzed in Alternative A. The definition of impacts to cultural resources relies on a minimal concept, implying that any kind of change to an historic feature, prehistoric site or cultural resource. Indirect and direct impacts are treated as one under cultural resource management. Thus, the estimated acreages and numbers of cultural resources projected for impacts from each management program should be larger than that calculated for direct impacts.

### **From Fish and Wildlife Habitat Management**

The designation of 1,365,680 acres as tortoise ACECs and 47,678 acres for other ACECs (total of 1,409,478 acres) would aid in the preservation of 2,800 eligible sites by restricting and inhibiting potentially threatening actions in the following zones: Piute Valley, Eldorado Valley, portions of the Goodsprings Valley, Meadow Valley Mountains, Virgin Mountains, Muddy Mountains, and the Arrow Canyon Range.

### **From Livestock Grazing Management**

Livestock grazing on 1,001,767 acres has the potential to affect 2,000 eligible sites and 31,000 acres of Traditional Lifeway Area. The integrity of archeological districts and Traditional Lifeway Areas in Gold Butte, Whitney Pocket, Arrow Canyon Range, Muddy Mountains, McCullough Mountains, and the Virgin Mountains, in



**Table 4-1. Allotments affected by the Habitat Conservation Plan.**

<u>Allotment</u>	<u>Acres</u>	<u>Percent of Allotment</u>	<u>Allotment Total</u>
Acton-Farrier	36,287	88	41,465
Arrow Canyon	60,449	69	88,108
Billy Goat Peak	25,824	52	48,962
Black Butte	14,696	36	40,861
Bunkerville	86,190	73	118,298
Christmas Tree Pass (N)	52,833	76	69,233
Crescent Peak (N)	81,522	68	119,320
Dry Lake	4,136	9	43,873
Glendale (N)	9,764	41	23,595
Gold Butte	43,328	25	172,859
Hen Springs	16,731	78	21,330
Ireteba Peaks	78,554	41	193,136
Jean Lake (N)	12,295	9	141,082
Kyle Canyon (N)	8,395	48	17,514
Lower Mormon Mesa	37,048	100	37,048
Lucky Strike	51,899	52	99,839
McCullough Mtns (N)	60,191	26	228,689
Mesa Cliff	854	6	13,681
Mesquite Community	3,646	42	8,702
Mount Stirling	17,326	14	126,888
Muddy Mtns	80,784	51	157,451
Muddy River (N)	5,630	32	17,888
Newberry Mtns (N)	8,690	27	31,764
Pittman Well	34,192	100	34,192
Roach Lake	11,460	55	20,752
Rox	18,062	100	18,062
South Point	1,408	8	16,739
Stump Spring (N)	27,873	56	49,557
Table Mtn	31,812	38	83,102
Toquop Sheep	24,557	100	24,557
Upper Mormon Mesa	46,325	100	46,325
Wheeler Slope (U)	26,428	37	72,277
Wheeler Wash	44,418	69	64,701
White Basin	1,301	1	97,454
Younts Spring (U)	14,502	100	14,502
<b>Total *</b>	<b>1,070,410</b>		

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Acreage is shown for public land only (does not include National Park Service)  
 N = Not Grazed  
 U = Unallotted  
 \* = Does not contain acreage in unallotted areas in Las Vegas Valley



particular, may be sacrificed. Significant impacts to cultural resources could occur from livestock grazing under this alternative.

#### **From Lands Management**

Closing the planning area to leases and permits would aid in the preservation of a minimum of 6,500 eligible sites.

#### **From Recreation Management**

Impacts could occur to 20 eligible sites as a result of OHV activities on 9,180 acres designated as open use areas. The identified cultural zones, specifically Jean/Roach Lake and Eldorado Valley, which would contain these open area are considered relatively medium to low sensitivity, as determined by limited inventory (Myhrer 1990a:20). Impacts would be less than under the No Action Alternative due to the reduced acreage open to OHV use.

#### **From Rights-of-Way Management**

The designation of 505,012 acres of corridors for transmission facilities and systems in Clark and Nye Counties has the potential to affect 1,000 eligible sites and significantly impact cultural resources.

#### **From Minerals Management**

Locatable mineral activity on 2,328,265 acres has the potential to impact 5,000 eligible sites, while salable mineral disposal on 2,533,021 acres could affect 5,400 sites. Solid leaseable mineral uses on 2,660,386 acres could affect 5,700 eligible sites and fluid leaseable mineral activities could impact 1,500 eligible sites. Impacts to cultural resources from minerals activities could be significant under this alternative.

### **LANDS MANAGEMENT**

Unless specifically analyzed below, the impacts to the lands program would be the same as those analyzed for Alternative A.

#### **From Lands Management**

The impacts would be the same as those identified for Alternative A, with the following exceptions.

Disposal Areas - Under this alternative, approximately 98,943 acres would be available for discretionary disposal through sale, exchange, color-of-title or R&PP patent for the future growth and development of individual communities within the planning area. Of the lands identified, 59,998 acres would be located in the Las Vegas Valley, where a fragmented growth pattern has created an easement identification problem on approximately 23,000 acres of these lands. Approximately 6,168 acres of public lands under right-of-way to Nevada Power Company (N-12873) for the Harry Allen Power Generating Station would be available for disposal to Nevada Power Company by Section 203 sale or exchange only.

Approximately 98,943 acres of public land would be available for R&PP leases, providing lands at less than fair market value for community growth and developments. Leases could be made for a variety of purposes including schools, libraries, hospitals, community centers, parks, public golf courses, fire stations, churches, community buildings, law enforcement facilities, correctional institutions, and water and sewage treatment facilities.



**Lease Areas** - Under this alternative, all public lands would be closed to land use leases and permits through Section 302 of FLPMA. This would prevent long-term encumbrances on lands valuable for disposal through sale or exchange.

**Withdrawals** - The following Special Management Areas, totaling 1,755,303 acres, would be designated and withdrawn from entry under the public land laws:

- Ash Meadows ACEC (37,078 acres)
- Big Dune ACEC (1,000 acres)
- Bird Spring Archaeological Site ACEC (160 acres)
- California Wash ACEC (87,500 acres)
- Coyote Springs/Mormon Mesa ACEC (299,300 acres)
- Crescent Mining Townsite ACEC (320 acres)
- Gold Butte Historic Mining Townsite ACEC (120 acres)
- Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)
- Indian Springs ACEC (133,400 acres)
- Ivanpah ACEC (142,580 acres)
- Pahrump Valley ACEC (186,400 acres)
- Piute Valley ACEC (286,800 acres)
- Sloan Rock Art Site ACEC (320 acres)
- Stump Spring Prehistoric/Historic Site ACEC (560 acres)
- Sunrise Mtn. - Rainbow Gardens ACEC (31,400 acres)
- Virgin ACEC, Unit A (181,260 acres)
- Desert Tortoise Research/Conservation Center (11,617 acres)
- Muddy River and Meadow Valley Wash riparian zones and floodplains (3,025 acres)
- Within 1/4 mile of springs and associated riparian zones (2,333 acres)
- Within 1/4 mile of significant caves (3,200 acres)
- Semi-primitive nonmotorized recreation opportunity spectrum (ROS) areas (276,570 acres)
- Traditional Lifeways Areas (31,000 acres)
- Within 1/2 mile of existing portions of the Old Spanish Trail/Mormon Road- (1/4 mile on either side of the centerline-36,000 acres).

#### **From Rights-of-Way Management**

Under this alternative, approximately 505,012 acres of public land would be designated for utility corridors. Corridors would range in width from 1 mile to 3 miles for a total length of approximately 476 miles. The designation of corridors would lessen the encumbrances incurred by randomly placed single-use lines on public lands which could lower the appraisal value of those lands identified for disposal. The potential exists for a loss of approximately 19,375 acres of public land identified for disposal throughout the planning area.

#### **From Minerals Management**

Approximately 61,278 acres of public land high in sale value within the Las Vegas and Laughlin areas, would be withdrawn from all mineral entry and development. Approximately 2,651,721 acres of public land would remain open for fluid, 2,328,265 acres for locatable; 2,533,021 acres for saleable; and 2,660,386 acres for leasable entry and development, unless segregated from entry, withdrawn, or classified for other purposes. Mineral entry and development encumbers the land and lowers the appraisal values. High potential mineral value could also preclude disposal of the lands. Other significant impacts to the lands disposal program would include so-called "nuisance" claims which have been filed on lands known for their high sale value. In cases where the mining claimant has refused to relinquish the claims, the individual or agency applying for the land disposal has been forced to buy out the claimant. Validity tests, both time consuming and expensive, could also be used to rid sale parcels of "nuisance" claims.



## **NATURAL AREAS MANAGEMENT**

The impacts to natural areas would be the same as identified in Alternative A.

## **RECREATION MANAGEMENT**

Unless otherwise noted, the impacts to recreation management would be the same as those analyzed in Alternative A.

### **From Fish and Wildlife Habitat Management**

Proposed tortoise ACECs would eliminate OHV competitive events on 1,356,680 acres in the SRA. This would directly affect the following historically-held events: five motorcycle events in the Piute Valley, one motorcycle event in the Mormon Mesa/Moapa area, one motorcycle event in the Ivanpah area, and one motorcycle and one buggy event in the Goodsprings Valley area. This loss would directly impact 4,000 participants (racers, pit and chase crews) and 5,000 spectators annually. This loss of opportunity would displace users to other areas, including the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. Use would increase in the Nelson Hills by 50 percent, by 25 percent in the Jean/Roach Dry Lake area, and by 50 percent in the Nellis Dunes. Use in the Eldorado Valley area would remain constant.

Closure of Big Dune to motorized recreation would cause adverse impacts to recreational opportunities there. As many as 7,500 visitor days of motorized recreation, camping, picnicking, and photography could be lost per year. The closure could annually affect up to five commercial film or photography permits. Recreationists who use Big Dune would be displaced to Dumont Dunes in California or to other locations outside of region, eliminating a popular and limited attraction in southern Nevada.

Motorized vehicle limitations designed to protect desert tortoise habitat could eliminate, restrict, or displaced OHV touring and free-play, hunting, camping, picnicking, as well as other recreational competitive and commercial activities. Motorized vehicle closures or limitations in tortoise management ACECs could directly affect 10 percent of all visitor use in the SRA (or approximately 173,772 visitor days). Motorized vehicle limitations would cause an increase in semi-primitive motorized recreation opportunities from roaded natural opportunities in the Mormon Mesa/Coyote Springs and Ivanpah ACECs. The total gain of semi-primitive motorized recreation opportunities would be approximately 441,880 acres.

### **From Lands Management**

The disposal of 1,106 acres of lands near Jean could affect the start/finish area for several major OHV events and directly impact the Gold Coast 300, SNORE 250, and the Gold Strike Championship Hare and Hound Motorcycle Event, four of the more important OHV events held in southern Nevada. Loss of these lands could displace the start/finish areas for these events to other locations. Should all 128,401 acres of land involved in the Eldorado Valley Land transfer area be relinquished to the state of Nevada or to some other entity, a significant loss of recreational opportunities could occur. Six OHV events, two model airplane events, one commercial ultralight plane operator, and thousands of OHV, camping, ultralight, light aircraft, model rocket, hunting, and other dispersed recreationists per year could be affected through either displacement or elimination of opportunities. Total use either displaced or eliminated could exceed 50,000 visitor days annually.

Disposal of lands under the *R&PP Act* would enhance Rural and Modern Urban recreation opportunities in the Las Vegas Valley, Laughlin, Mesquite, Pahrump, and Boulder City areas.



The proposed land withdrawals would afford additional protection in the recreation management areas, significant cave and karst resources, and within semi-primitive nonmotorized recreation opportunity spectrum areas from lands disposals. Approximately 579,010 acres of important areas for recreation opportunities would be protected.

#### **From Recreation Management**

Twelve areas, totaling 917,395 acres, would be managed as Special Recreation Management Areas (SRMAs); one area of 2,753,732 acres would be managed as an Extensive Recreation Management Area (ERMA). The SRMAs would be managed to ensure long-term recreation opportunities and to resolve conflicts between users and other resource values. The area designated as an ERMA would be managed to ensure that dispersed recreation opportunities are maintained in the long term.

The designation of 12 SRMAs, coupled with the rapid population growth in southern Nevada, would increase recreation use by approximately 10 percent or 144,810 visitor days (total visitor days could exceed 1,592,910 visitor days annually) per year within the next decade.

Under this alternative, less than 1 percent or 9,180 acres of the SRA would be designated as open for unrestricted OHV use (compared to 47 percent under the No Action Alternative), 49 percent or 1,799,683 acres (compared to 51 percent under the No Action Alternative) would be limited to existing roads and trails, and 51 percent or 1,871,444 acres (compared to 2 percent under the No Action Alternative) would be limited to designated roads and trails. Less than 1 percent or 13,190 acres (compared to the No Action Alternative) would be closed to all motorized use. The overall impact to users would be minimal since users travel cross-country (off existing roads and trails) in only a small portion of the resource area. The closure of Big Dune to motorized recreation would constitute the most significant impact, affecting 7,500 visitor days of motorized recreation, camping, picnicking, and photography annually. As many as five commercial film or photography permits would be impacted per year. Recreationists who use Big Dune would be displaced to Dumont Dunes in California or to other regional locations, eliminating a popular and limited attraction in southern Nevada.

#### **From Minerals Management**

Within the Gold Butte SRMA (total acreage is 354,305 acres), 181,260 acres would be closed to fluid leasable and locatable minerals; 220,700 acres would be closed to mineral materials disposal, authorization/renewal of material site rights-of-way, and non-energy leasable mineral development. Recreation opportunities including horseback riding, mountain bike riding, camping, hiking, pleasure driving, hunting, and picnicking would not be compromised on these acres by minerals-related disturbances in the SRMA.

Within the Muddy Mountain SRMA (total acreage is 123,377 acres), 78,480 acres would be closed to fluid leasable, locatable, material sales, and non-energy mineral development. Recreation opportunities such as hiking, camping, mountain bike riding, horseback riding, and wildlife viewing would not be affected on these acres in the SRMA.

Approximately 3,100 acres of the Arrow Canyon SRMA (total acreage is 31,700 acres) would be closed to fluid leasable, locatable, material sales, and non-energy mineral development. Hiking, camping, mountain bike riding, horseback riding, and wildlife viewing would not be impacted by minerals-related activities on those acres in the SRMA.

Within the Sunrise Mountain SRMA, all 31,400 acres would be closed to all forms of mineral development to protect important research, geologic, wildlife, and visual resources.



In the Nelson Hills/Keyhole Canyon SRMA (total acreage is 43,705 acres), 160 acres located at Keyhole Canyon would be closed to all forms of mineral development, protecting important cultural, recreation, and aesthetic values. The remaining acreage (43,545 acres) in the SRMA would be available to all forms of mineral development; recreational opportunities could not be assured in the long term.

One thousand acres within Big Dune would be available for fluid mineral leasing, subject to no surface occupancy. The same acreage would be closed to operation under the Mining Law, closed to mineral materials disposal and authorization/renewal of material site right-of-way, and closed to non-energy mineral activity.

All other lands located within SRMAs would be available for all forms of mineral development. Potential mineral development would increase access to some areas, creating additional OHV race courses as well as increasing visitation. Such development could impair the visual and aesthetic values and displace visitors and other recreational users from historically-used locales.

#### **From Special Management Areas**

Approximately 1,777,313 acres would be identified as limited to designated roads and trails in special management areas and 13,190 acres as closed to all motorized uses. Impacts to recreational users is expected to be significant only in the Sunrise Mountain area, since few of the areas subject to this designation currently receive cross-county motorized use. The vast network of existing road and trails and heavy visitor use in the Sunrise Mountain area would make enforcement of the designation difficult.

### **WILD AND SCENIC RIVERS MANAGEMENT**

The impacts to wild and scenic rivers would be the same as identified in Alternative A.

### **RIGHTS-OF-WAY MANAGEMENT**

Unless otherwise identified below, the impacts to rights-of-way authorizations would be the same as those analyzed under Alternative A.

#### **From Rights-of-Way**

Under this alternative, approximately 476 miles of utility corridors would be designated, totaling 505,012 acres of public land. Corridors would range from 1 to 3 miles in width. Newly-designated corridors would be limited to 2 miles in width within TMAs/ACECs. No rights-of-way would be authorized within corridors designated in WSAs or ISAs until Congress releases them from further wilderness consideration and study. If the Sunrise ISA is released from further consideration, the corridor traversing that area would be limited to transmission lines 250kv and higher. The scenic values and integrity of the surrounding area would be protected by eliminating the proliferation of single-use utility lines. Although utility rights-of-way are not limited to existing corridors, all efforts would be focused on utilizing the corridors whenever possible and to their maximum capacity. Prospective right-of-way holders would benefit by use of the existing data. In some instances location and size of the corridors could render negative impacts to uses not compatible with the proposed use.

Within the Sunrise Mountain ACEC, all communication site rights-of-way would be limited to the existing site on Frenchman Mountain.



Under this alternative approximately 42 percent of the public lands within the resource area would be designated as right-of-way exclusion areas. Right-of-way exclusion areas would be limited to the following:

No material site rights-of-way will be authorized within ACECs.

This would constitute a loss of approximately 1,538,298 acres of public land available for material site development.

Approximately 63 percent of the public lands within the resource area would be designated as right-of-way avoidance areas. Areas of concern would be limited to the following (exclusive of any designated corridors):

- All ACECs
- Semi-primitive nonmotorized ROS areas
- Significant caves (within 1/4 mile)
- Wilderness Study Areas

This would constitute a potential loss of approximately 2,325,205 acres of public land available for all types of rights-of-way.

## **WILDERNESS MANAGEMENT**

The impacts to wilderness resources would be the same as analyzed in Alternative A.

## **MINERALS MANAGEMENT**

Unless specifically addressed below, the impacts to minerals management would be the same as those identified for Alternative A.

### **From Riparian Management**

The proposed withdrawal of approximately 2,333 acres for Riparian Management Areas (areas within  $\frac{1}{4}$  mile of springs and their associated riparian zones) would close those acres of public lands to mining claim location, mineral leasing, and mineral material disposal, and solid mineral leasing. Fluid mineral leasing would be allowed, with the stipulation that no surface occupancy could occur within the Riparian Management Areas. The proposed withdrawal of approximately 3,025 acres of Muddy River and Meadow Valley riparian zones and floodplains would close those acres of public lands for mining claim location, mineral leasing, mineral material disposal, and solid mineral leasing. Fluid mineral leasing would be allowed, with the stipulation that no surface occupancy could occur within the Muddy River and Meadow Valley riparian zones and floodplains.

### **From Fish and Wildlife Management**

The proposed withdrawal of 11,617 acres for a Desert Tortoise Conservation Center would close those lands for mining claim location, mineral leasing, and mineral material disposal.

### **From Cultural Resource Management**

The proposed withdrawal of approximately 31,000 acres of Traditional Lifeways Areas (areas sacred to the Moapa Band of Paiute Indians) would close that acreage for mining claim location, mineral leasing, and mineral material disposal.

### **From Lands Management**

Assuming the saleable mineral estate is sold along with the surface estate, the disposal of 59,998 acres of the approximately 108,107 acres of public lands within the Las Vegas Valley would significantly decrease the availability of both silt to the landscape industry and sand and gravel to the building industry. Construction of housing and other structures on these lands would significantly increase the demand for silt, sand, and gravel, which would already be in short supply within the Las Vegas Valley.

The proposed withdrawal of approximately 61,278 acres of Las Vegas and Laughlin Land Disposal Areas would close that acreage to mining claim location, mineral leasing, and mineral material disposal.

### **From Acquisitions Management**

Assuming that the current owners would be willing to sell, approximately 14,669 acres of private land could be acquired during the life of the RMP. These lands would be available for all forms of mineral exploration and development unless specifically closed by legislative mandates or by subsequent administrative action taken in conformance with the RMP.

### **From Special Management Areas**

The designation of ACECs would require that a plan of operation be approved prior to commencing any mining operation, except casual use, in those areas. Nineteen proposed withdrawals, totaling approximately 1,538,298 acres of ACECs would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. Seventeen of the withdrawals would close approximately 1,474,658 acres to mining claim location while 19 of the withdrawals would close approximately 1,538,298 acres to mineral material disposal. Nineteen of the withdrawals would close approximately 1,538,298 acres to solid mineral leasing and 17 of the withdrawals close approximately 1,483,258 acres to fluid mineral leasing. Of the approximately 55,040 acres remaining, approximately 1,000 acres would remain open, subject to no surface occupancy and similar major constraints. Approximately 54,040 acres would remain open, subject to seasonal and other minor constraints.

## **ACQUISITIONS MANAGEMENT**

Where the lands are available and the current owner is willing, the BLM would attempt to acquire approximately 14,669 acres of private land within the following:

- All designated ACECs containing private lands (approximately 6,372 acres)
- Ash Meadows ACEC, outside the refuge boundary (approximately 415 acres)
- All lands conveyed into private ownership to Aerojet (approximately 7,882 acres)

These lands would be included within applicable, designated ACECs. Additional lands to be acquired if the opportunity arises include all private lands within Category I, II, and III desert tortoise habitat, as described in the Special Management Areas section of this alternative.

Under this alternative, the BLM would attempt to obtain an easement on the Pabco Tram Road which is an exclusive right-of-way. Obtaining an easement would enhance multiple-use management of public lands closed to access because of the exclusive access rights exercised by the current right-of-way holder.

## **FIRE MANAGEMENT**

The impacts to fire management would be the same as those identified in Alternative A.



## **SPECIAL MANAGEMENT AREAS**

The discussion below is a summary of the impacts anticipated to occur from designation of ACECs. The impacts to a specific program or resource are analyzed in more in detail in the appropriate program or resource discussion.

### **From Special Management Areas**

A total of 19 ACECs, encompassing approximately 1,538,298 acres, would be designated, thereby providing special management attention to protect critical environmental values. In addition to the special management attention identified in the individual ACEC discussions in Chapter 2 and the impacts discussed below, one regulatory impact would occur upon designation. The Code of Federal Regulations at Title 43, Sub-Part 3809 (43 CFR 3809) requires that a plan of operations be submitted for approval by BLM prior to commencing any surface disturbing activities conducted pursuant to the 3809 regulations (locatable mineral activities) within a designated ACEC. This requirement affords BLM the opportunity to prepare an EA to identify alternatives and mitigating measures, and where appropriate, to conduct a Section 7 consultation for endangered and threatened species and/or a Section 106 consultation for cultural resources, thereby reducing or eliminating adverse impacts to these sensitive resources. In addition, all ACECs would be closed to the 1872 *Mining Law*.

Approximately 1,356,680 acres in seven areas would be designated as ACECs to protect and provide for the recovery of the desert tortoise; adverse impacts such as habitat loss and direct mortality to tortoises and other wildlife species would be eliminated or reduced through operation of the 3809 regulations, limiting casual OHV use to existing or designated roads and trails, prohibiting all competitive OHV events, and closure to livestock grazing.

Designation of the 83,100 acre Red Rock Canyon NCA as an ACEC would ensure the elimination of adverse impacts such as degradation of visual resources and loss of wildlife habitat resulting from mineral material disposals (i.e. sand and gravel operations). Adverse impacts such as degradation of visual resources and loss of wildlife habitat resulting from operation of the 1872 Mining Law on pre-NCA claims would be reduced by mitigation proposed and implemented through the plan of operation and EA processes.

Approximately 98,518 acres in 11 separate areas would be designated as ACECs to protect other critical resource values, including threatened and endangered species, botanical resources, desert bighorn habitat, cultural and paleontological resources, geological resources, scenic quality and visual resources, and designated natural areas. Adverse impacts such as habitat loss, direct mortality to wildlife species, and degradation of scenic quality would be reduced through operation of the 3809 regulations, limiting casual OHV use to existing or designated roads and trails, prohibiting all competitive and non-competitive OHV events, prohibiting all material site ROWs, and closures or restrictions on all types of mineral exploration and development activities.

## **SOCIO-ECONOMIC VALUES**

Unless specifically discussed below, the impacts to socio-economic values would be the same as those identified for Alternative A.

### **From Livestock Grazing Management**

Management actions to protect the habitat of threatened wildlife species would have severe, long-term adverse economic effects on livestock grazing and the ranching industry. Under this alternative, only 3,124 AUMs would be available for livestock grazing. The loss of 13,477 AUMs would have the direct effect of reducing gross income by \$393,757; net ranch income would be reduced by an estimated \$64,285. While this would have no significant effect on the regional economy, individual ranch operators would no longer be able to sustain their

operations. In many cases, there would simply be no grazing land available. Unless alternative sources of forage could be found in other areas to which ranchers might relocate their operations, 34 permittees, with water-based properties, would be forced to leave the ranching industry.

Affected ranchers may realize substantial compensation for their forage losses in the event that Clark County's Habitat Conservation Plan is implemented. The plan proposes to collect fees from developers in order to establish a pool of funds which would be used to purchase grazing privileges and to establish Desert Tortoise Conservation Areas. Ranchers would be reasonably compensated through this plan, allowing them to discontinue grazing or enabling them to relocate grazing operations elsewhere.

#### **From Lands Actions**

A total of 98,943 acres are identified for discretionary disposal under this alternative. While it is impossible to predict the number of acres which might ultimately be disposed of through sale, some reasonable conclusions regarding values can be drawn. Based on estimated fair value applied to potential highest and best use, and assuming that land values would not be affected by the disposal of all or a portion of this acreage, these lands are valued at a total of \$2.6 billion dollars. Assuming assessed valuation at 35 percent of full cash value, these lands would add a total of \$923.6 million to assessed valuation of the two counties. On a weighted average per acre basis, average fair market value per acre is estimated at \$26,670; assessed value per acre is estimated at \$9,335, yielding an estimated tax revenue of \$186.91 per acre.

The successful disposal of a large portion of this public land acreage of the 20-year period could alter the tax base of the counties to a significant degree. In some cases, local governments could suffer adverse financial effects from the transfer of these lands to private ownership, should tax revenues fall short of the costs of providing public services to new areas.



## **ALTERNATIVE D - PREFERRED ALTERNATIVE**

Impacts were analyzed for each of the following resources or management programs: air, soils, water, vegetation, riparian resources, visual resources, fish and wildlife habitat, forestry, livestock grazing management, wild horses and burros, cultural resources, lands, natural areas, recreation management, wild and scenic rivers, rights-of-way, wilderness, minerals, acquisitions, fire management, special management areas, and socio-economic values. Only those impacts determined to be significant are included in the following sections.

### **AIR RESOURCE MANAGEMENT**

#### **From Lands Management**

The impacts to air quality would be the same as those identified for the No Action Alternative.

#### **From Recreation Management**

The impacts to air quality would be the same as those analyzed for Alternative C.

#### **From Minerals Management**

The impacts to air quality would be the same as those identified for the No Action Alternative.

### **SOILS MANAGEMENT**

Soil loss figures are based on the total acreage of disturbance that can reasonably be estimated. The acreages of disturbance for each impacting activity, along with the annual soil losses per acre (above that which would occur naturally) are based on soil survey information, literature, consultation, and field observations. These figures are intended to provide a basis for comparison of impacts and alternatives. Actual soil losses and acreages disturbed could vary from those predicted.

#### **From Livestock Grazing Management**

Under this alternative 42,685 acres of soils in a critical erosion condition and 52,345 acres of soils highly susceptible to erosion would be disturbed by livestock grazing. Grazing within these areas could be expected to result in an increased soil loss of approximately 5 to 10 tons per acre per year for an average total annual loss of 590,512 tons. The active allotments containing critical condition (cc) and highly susceptible (hs) soils are listed below with the anticipated annual increases in soil loss.

Arrow Canyon - 5,477 acres (cc), 8,117 acres (hs)	0 tons
Azure Ridge - 6,502 acres (cc)	48,765 tons
Bunkerville - 669 acres (cc), 23,494 acres (hs)	181,222 tons
Dry Lake - 270 acres (hs)	0 tons
Flat Top Mesa - 1,860 acres (cc), 2,328 acres (hs)	31,410 tons
Gold Butte - 2,489 acres (cc)	18,668 tons
Ireteba Peaks - 5,681 acres (cc)	42,607 tons
Jackrabbit - 4,266 acres (cc), 2,596 acres (hs)	51,465 tons
Lower Mormon Mesa - 771 acres (cc), 3,452 acres (hs)	31,672 tons
Mesa Cliff - 8,422 acres (cc), 3,980 acres (hs)	93,015 tons



Roach Lake - 2,431 acres (cc)	0 tons
Toquop Sheep - 3,058 acres (hs)	22,935 tons
Upper Mormon Mesa - 1,217 acres (hs)	9,128 tons
White Basin - 4,117 acres (cc), 3,833 acres (hs)	59,625 tons

Nine active allotments contain saline soils, totaling 57,218 acres, and are located entirely or partially within the Colorado River drainage system. Grazing within the saline soil areas could be expected to result in an increased soil loss of 3 to 7 tons per acre per year, for an average total annual soil loss of 94,015 tons. Recent data suggest that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from livestock grazing) within SRA's portion of the drainage are not known at this time, salt loading would be expected to continue at the current rate or increase, particularly within the C category allotments. The active allotments containing saline soils are shown below with the annual anticipated increase in soil loss.

Acton-Farrier - 780 acres of saline soils	3,900 tons
Arrow Canyon - 13,624 acres of saline soils	0 tons
Bunkerville - 13,240 acres of saline soils	66,200 tons
Dry Lake - 21,797 acres of saline soils	0 tons
Flat Top Mesa - 381 acres of saline soils	1,905 tons
Hen Springs - 1,764 acres of saline soils	8,820 tons
Hidden Valley - 1,211 acres of saline soils	6,055 tons
Mesquite Community - 408 acres of saline soils	2,040 tons
Muddy Mountains - 4,013 acres of saline soils	5,095 tons

#### **From Recreation Management**

The impacts to soils would be the same as those identified under Alternative C.

#### **From Rights-of-Way Management**

Soils could be impacted by the issuance of rights-of-way throughout the planning area. Within areas with soils of a high erosion susceptibility, critical erosion condition, and/or saline soils, significant adverse impacts could be expected unless proper mitigation measures are adopted. The SRA, with its low precipitation and resultant arid vegetation communities, is not readily amenable to standard rehabilitation efforts. The soil would be left in a prolonged vulnerable state with the potential for significant wind and water erosion. Under this alternative, 563 miles of rights-of-way corridors would be designated. These corridors contain 9,985 acres of soils in a critical erosion condition, 16,662 acres of soil highly susceptible to wind and water erosion, and 98,923 acres of saline soils. Of these totals, 2,900 acres of soils in a critical erosion condition, 16,662 acres of highly susceptible soils, and 50,741 acres of saline soils are located within the Colorado River drainage system. For the purpose of alternative comparison, pipeline/powerline rights-of-way were used here as an example of expected soil loss. An estimated 6.5 to 27 tons per acre per year would be lost from soil disturbance due to pipeline/powerline construction on 266 acres, resulting in an average annual loss of 4,463 tons from areas containing critical condition soils and highly susceptible soils. Within the Colorado River drainage system, an average annual loss of 3,277 tons could be expected from 196 acres of disturbed ground. An average annual loss of 5,582 tons of saline soils could be expected to be lost from 507 acres of disturbance, further contributing to the Colorado River's salinity problem.

#### **From Minerals Management**

Impacts to the soils from mineral exploration and development would be both temporary and long term. Fluid mineral activities could create minor impacts, primarily associated with road travel and drill pad construction; little activity of this type occurs in the planning area and no increases are anticipated. Locateable mineral,



mineral material sales, and non-energy leaseable activities could result in significant erosion problems. Areas with a critical erosion condition (96,994 acres), high erosion susceptibility (90,550 acres), and/or saline soils (281,538 acres) would be particularly vulnerable. Soil disturbance would result from both mineral exploration and development activities, including access and haul road construction, the stockpiling of topsoil, and pit construction. Mineral exploration, with proper mitigation and reclamation, would constitute a short-term adverse impact while mineral development could be expected to be long term. The low precipitation amounts and resultant arid vegetation communities of the planning area are not conducive to standard rehabilitation efforts. Even after abandonment of mineral developments, soil erosion may continue to be a problem. Under this alternative, 174,423 acres of soils in a critical condition and those highly susceptible to erosion would be open to locatable mineral entry, 169,628 acres to mineral sales, and 187,544 acres to non-energy leaseables. As a result of soil disturbance from these activities, a soil loss of 6.5 to 27 tons per acre per year for an average total of 14,600 tons from locatable mineral entry, 14,206 tons from mineral sales and 13,669 tons from non-energy leaseables could be projected from lands open to such activity. Much of this soil loss would come from within the Colorado River drainage system (14,600 tons from locatable mineral entry, 14,183 tons from mineral sales, and 11,155 tons from non-energy leaseables lands). Also within this drainage system there are 170,711 acres of saline soils from which an average annual soil loss of 7,964 tons from locatable mineral entry, 8,996 tons from mineral sales, and 7,964 tons from non-energy leaseables lands could be anticipated, further contributing to the Colorado River's existing salinity problem.

## **WATER RESOURCE MANAGEMENT**

### **From Livestock Grazing Management**

An impact on surface water could be expected, resulting in potential changes in water quality, quantity, and timing. Livestock grazing is considered to be the major contributor of coliform bacteria contamination in most surface water sources of the planning area. Approximately 94 percent of spring sources are contaminated and are anticipated to remain so unless protection is initiated. The greatest impact on the water resource occurs from erosional sedimentation. An estimated 5 to 10 percent of eroded soil actually reaches surface water sources within the planning area. Annual soil loss of 590,512 tons could be expected from 95,030 acres of critical condition and highly susceptible soil areas (44,288 tons of sediment delivered to stream channels). Grazing within the 57,218 acres of saline soils would be projected to encourage the erosion of 7,051 tons of sediment to stream channels within the Colorado River drainage. Recent data indicate that approximately 283,000 tons per year of salt are contributed to the Colorado River from the Nevada portion of the drainage system. Although salt contributions from the public lands (including contributions from livestock grazing) within the SRA's portion of the drainage are not known at this time, salt loading resulting from grazing would be expected to decrease.

### **From Lands Management**

The impacts to water resources from lands actions would be the same as those analysed for the No Action Alternative.

### **From Recreation Management**

The impacts to water resources would be the same as those analyzed for Alternative C.

### **From Rights-of-Way Management**

Significant impacts could result from the issuance of rights-of-way in the planning area. Erosional sedimentation would cause the greatest changes in water quality and quantity. For purposes of alternative comparison, pipeline/powerline rights-of-way were used as an example of expected soil loss. An annual soil loss of 4,463 tons can be expected from areas with critical and/or highly susceptible soils (335 tons of sediment delivered



to stream channels). Of this total, 3,277 tons of soil loss could occur within the Colorado River drainage system (256 tons of sediment delivered to stream channels). A loss of 5,582 tons of saline soils could be project to occur, further contributing to salt loading of the Colorado River (419 tons of sediment delivered to stream channels).

#### **From Minerals Management**

Surface water could sustain impacts from minerals activities which accelerate erosion and sedimentation. An annual sediment transport of 1,096 tons could be expected from locatable mineral entry, 1,065 tons from mineral sales, and 1,025 tons from non-energy leasables. Most of this sediment would come from within the Colorado River drainage system (1,095 tons from locatable mineral entry, 1,064 tons from mineral sales, and 837 tons from non-energy leasables lands). Approximately 597 tons of saline sediment from locatable mineral entry, 675 tons from mineral sales, and 479 tons from non-energy leasables lands could be produced, further contributing to the Colorado River's existing salinity problem.

### **VEGETATION MANAGEMENT**

Except where specifically identified below, impacts to vegetation resources would be the same as Alternative A.

#### **From Livestock Grazing Management**

Vegetation resources on approximately 1,902,881 acres of public lands would be impacted by livestock grazing. Approximately 857,335 acres currently closed to livestock grazing would remain closed and an additional 910,900 acres of public lands would be closed.

Under the terms and conditions of the desert tortoise/livestock grazing Section 7 consultation, vegetation could be impacted by livestock grazing on approximately 1,349,894 acres during the period from June 15 through February 28 (or February 29). Specific impacts related to grazing during the growing season for warm season species would include the removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor while immature plants would have greater difficulty in becoming established. Physical damage to both forage and non-forage species could result from livestock trampling. Impacts during the dormant period would further reduce vegetative cover and the amount of plant material available for litter. Grazing-related impacts would not occur from March 1 through June 14, benefiting cool season species. Above ground biomass would increase and plant reproductive capability maintained or improved. The vigor of mature plants would be maintained or improved. Increased numbers of immature plants would successfully be established, making more plant material available for litter. Grazing use would be keyed to specific utilization levels, depending on the season of use, thus lessening the adverse impacts associated with livestock grazing. If grazing use exceeds these levels, livestock would be removed from the allotment, thus eliminating further adverse impacts to vegetation. In the long term, species diversity should increase and ecological condition approach or reach Potential Natural Community.

Specific impacts related to grazing would include repeated removal of above ground biomass, resulting in decreased production. Mature plants would experience reduced reproductive capability and vigor, while immature individuals would have difficulty in becoming established. Physical damage to both forage and non-forage species could result from trampling. Grazing use would be keyed to specific utilization levels, depending on season of use, thus lessening the adverse impacts associated with year-long grazing. If grazing use exceeds these levels, livestock would be removed from the allotment. Further adverse impacts to vegetation from grazing would then be eliminated. In the long term, species diversity and ecological condition should be maintained.



## **RIPARIAN MANAGEMENT**

### **From Livestock Grazing Management**

Grazing impacts would be concentrated in riparian areas. An estimated 70 percent of the spring-associated riparian areas of the planning area are in poor condition, while those areas associated with perennial streams are in poor to fair condition. Livestock grazing within riparian areas prevents regeneration of desirable vegetative types, compacts soil, increases surface salinity, hinders plant growth, and can lower the water table. Under this alternative, the Ash Meadows, Virgin River Bottom, and Muddy River Allotments would be closed to livestock grazing, as well as 2,835 additional acres along the Meadow Valley Wash and Virgin River. These measures would aid in the protection of the Ash Meadows, Virgin River, and Muddy River riparian zones. Of the 200 springs currently identified within the SRA, 80 are located within 10 active allotments (approximately 40 acres of riparian zone).

### **From Wild Horse and Burro Management**

The impacts to riparian resources would be the same as those identified for Alternative A.

### **From Riparian Management**

The impacts to riparian resources would be the same as those analyzed for the No Action Alternative.

## **VISUAL RESOURCE MANAGEMENT (VRM)**

The impacts to visual resource management would be the same as those identified in Alternative A.

## **FISH AND WILDLIFE HABITAT MANAGEMENT**

Except where specifically identified below, the impacts to fish and wildlife resources would be the same as analyzed in Alternative A.

### **From Livestock Grazing Management**

Approximately 1,349,894 acres would be closed to livestock grazing, including some allotments which have not been grazed for at least 10 years resulting in a beneficial impact on desert tortoise and other wildlife. Competition for forage between livestock and tortoises would be eliminated on approximately 156,600 acres of tortoise habitat which would be closed to grazing. Few of the allotments to be closed overlap with tortoise ACECs. Competition between bighorn sheep and livestock would be eliminated in the Newberry Mountains and Pitmann Well and Ute allotments. Impacts to bighorn sheep from domestic sheep grazing would be the same as those analyzed under Alternative A.

The 1,902,881 acres to remain open to grazing would be managed under grazing Prescriptions 1 and 2. Impacts to wildlife would be the same as under Alternative A.

### **From Rights-of-Way Management**

Impacts on wildlife would be similar to those identified under Alternative A, except that the corridor through the Indian Springs ACEC would be designated.

## **From Minerals Management**

Negative impacts to wildlife from mineral exploration and development would include direct mortality during mining activity. Indirect impacts such as loss and degradation of habitat, harassment, and increased chances of incidental take would be associated with minerals-related activities and improved access made possible by new road construction. The River Mountains ACEC would be closed to locatable mineral entry and mineral materials, resulting in positive impacts on bighorn sheep as impacts associated with mineral development would be reduced. Threatened and endangered species in Ash Meadows and the Virgin River would benefit as habitat loss, degradation, and fragmentation due to mineral exploration and development would be reduced.

Tortoise ACECs would be open to all forms of exploration and development, including mineral materials disposal, potentially creating negative impacts to tortoises. These impacts would include, habitat loss, degradation and fragmentation and increased potential for harassment and incidental take.

## **From Acquisitions Management**

The impacts would be the same as those identified in Alternative B.

## **FORESTRY MANAGEMENT**

The impacts to forestry would be the same as those analyzed in Alternative A.

## **LIVESTOCK GRAZING MANAGEMENT**

Except where specifically identified below, the impacts to livestock grazing would be the same as those analyzed in Alternative A.

### **From Livestock Grazing Management**

Approximately 2,341,875 acres of public lands within the SRA would be available for domestic livestock grazing. Grazing use would be authorized in accordance with the terms of the desert tortoise/livestock grazing Section 7 consultation.

Under this alternative, approximately 1,329,252 acres of public lands would be closed to all domestic livestock grazing. This figure includes 875,335 acres of closures carried forward as valid existing management, one allotment encompassing 72,277 acres closed for lack of base property, two allotments encompassing 20,171 acres closed due to conflicts with riparian management, approximately 2,835 acres along the Meadow Valley Wash and Virgin River floodplains and riparian zones, and 11 allotments comprising 310,374 acres.

Grazing would be authorized in accordance with the Ephemeral Range Rule and the terms of the desert tortoise/livestock grazing Section 7 consultation. Utilization of key forage species would be limited to 55 percent of current year's growth, except in desert tortoise habitat. In those areas, utilization levels would be limited to 40, 45 or 50 percent of current year's growth, depending on season of use and vegetation type. For the majority of allotments, the distribution of livestock would continue to be controlled by the availability and location of water until the development and implementation of AMPs.

## **WILD HORSE AND BURRO MANAGEMENT**

The impacts to wild horses and burros would be the same as those identified in Alternative A.



## **CULTURAL RESOURCE MANAGEMENT**

The impacts to cultural resources would be the same as those identified under Alternative A, unless specifically analysed below. The definition of impacts to cultural resources relies on a minimal concept, implying that any kind of change, however, small to an historic feature, prehistoric site or cultural resource constitutes an impact. Indirect and direct impacts are treated as one for cultural resource management. Thus, the estimated acreages and numbers of cultural resources projected for impacts from each management program should be larger than that calculated for direct impacts.

### **From Livestock Grazing Management**

Livestock grazing on 1,902,881 acres has the potential to affect 4,600 eligible sites and 31,000 acres of Traditional Lifeway Area. The integrity of archeological districts and Traditional Lifeway Areas in the Gold Butte, Whitney Pocket, Arrow Canyon Range, Muddy Mountains, McCullough Mountains, and Virgin Mountains, in particular, may be sacrificed. The impacts to cultural resources from livestock grazing management are potentially significant.

### **From Lands Management**

The availability for disposal of 1,517,562 acres of public land has the potential to affect 3,000 eligible sites. The withdrawal of 387,985 acres from leases, permits, and disposals would aid in the preservation of approximately 1,000 sites. The potential for significant impacts to cultural resources would be present under this alternative.

### **From Minerals Management**

Locatable mineral activity on 4,008,868 acres has the potential to affect 7,700 sites, while salable mineral disposal on 4,035,390 acres could affect 7,700 eligible properties. Solid leasable mineral uses on 4,448,329 acres potentially could impact 9,000 eligible sites and fluid leasable mineral activities on 531,844 acres could affect 1,000 eligible sites. These would constitute a significant impact on cultural resources.

## **LANDS MANAGEMENT**

Except where specifically identified below, the impacts to the lands program would be the same as those analyzed for Alternative A.

### **From Lands Management**

Disposal Areas - Under this alternative, approximately 540,171 acres of public land in the Stateline Resource Area would be available for discretionary disposal through sale, exchange, color-of-title, or R&PP patent for the future growth and development of individual communities within the planning area. Of the lands identified, 99,391 acres would be located in the Las Vegas Valley where a fragmented growth pattern with an easement identification problem on approximately 23,000 acres of these lands has developed.

Under this alternative, approximately 540,171 acres of public land would be available for R&PP leases, providing lands for community development at less than fair market value. Lands would be available for schools, libraries, hospitals, community centers, parks, public golf courses, fire stations, churches, community buildings, law enforcement facilities, correctional institutions, water and sewage treatment facilities, and other types of public uses.

Lease Areas - Approximately 1,657,154 acres of public land (with the exception of ACECs) would be available for land use leases and permits through Section 302 of FLPMA. The unauthorized use of public lands could be resolved with such leases and permits, with rental collected at fair market value. The general public could



acquire the use of public lands, another source of Federal revenue would be generated, and multiple-use management goals met.

Under this alternative approximately 1,657,154 acres of public land would be available for airport leasing, providing communities with airport facilities which they could not otherwise afford to purchase, and multiple-use management goals would be met. No airport leases would be authorized within ACECs.

Withdrawals- Under this alternative the following Special Management Areas, totaling approximately 387,985 acres, would be designated and withdrawn from entry under the public land laws:

- Arrow Canyon Archaeological/Paleontological District  
(part of Coyote Springs/Mormon Mesa ACEC) (3,100 acres)
- Ash Meadows ACEC (37,078 acres)
- Bird Spring Archaeological Site ACEC (160 acres)
- Crescent Mining Townsite ACEC (320 acres)
- Gold Butte Historic Mining Townsite ACEC (120 acres)
- Hidden Valley (Muddy Mountains) Archaeological District ACEC (3,360 acres)
- Keyhole Canyon Rock Art Site ACEC (160 acres)
- Red Rock Spring Archaeological Site (part of Virgin ACEC) (640 acres)
- River Mountains ACEC (14,600 acres)
- Semi-primitive non-motorized ROS areas (276,570 acres)
- Significant caves (no surface occupancy within 1/4 mile) (3,200 acres)
- Sloan Rock Art Site ACEC (320 acres)
- Springs and associated riparian zones (no surface occupancy within 1/4 mile) (2,333 acres)
- Stump Springs ACEC (560 acres)
- Virgin River Riparian Area (part of Virgin ACEC) (2,835 acres)
- Virgin River Anasazi Prehistoric District (5,995 acres)
- Desert Tortoise Conservation Center (634 acres)
- Within 1/2 mile of existing portions of the Old Spanish Trail/Mormon Road- (1/4 mile on either side of the centerline-36,000 acres)

#### **From Rights-of-Way Management**

Under this alternative, approximately 529,301 acres of public land would be designated for utility corridors. Utility corridors would range in width from 1 mile to 3 miles for a total length of approximately 536 miles. Designation of corridors would lessen the encumbrances incurred on public lands by randomly placed, single-use lines which could lower the appraisal value of those lands identified for disposal. Conversely, the potential exists for a loss of approximately 179,353 acres of public land identified for disposal throughout the planning area.

#### **From Minerals Management**

Approximately 4,468,344 acres of public land would remain open for fluid leaseable, 4,008,868 acres for locatable, 4,035,390 acres for saleable, and 4,448,329 acres for leaseable (includes 1,580 acres for sand and gravel) entry and development unless segregated from entry, withdrawn, or classified for other purposes. Mineral entry and development encumbers the land and lowers the appraisal values. High potential mineral value could also preclude disposal of the lands. Other significant impacts to the lands disposal program include so-called "nuisance" claims, filed on lands known for their high sale value. In cases where the mining claimant has refused to relinquish the claims, the individual or agency applying for the land disposal has been forced to buy out the claimant. Processing of validity tests, an expensive and time-consuming effort, has also been a mechanism for ridding sale parcels of "nuisance" claims.



### **From Special Management Areas**

Under this alternative, 9,243 acres of BLM inholdings within the Ash Meadows NWR boundary could be taken out of multiple-use management and transferred to the U.S. Fish and Wildlife Service as part of the Ash Meadows NWR.

### **NATURAL AREAS MANAGEMENT**

The impacts to natural areas would be the same as those identified in Alternative A.

### **RECREATION MANAGEMENT**

Except as identified below, the impacts to recreation management would be the same as those analyzed under Alternative A.

#### **From Fish and Wildlife Habitat Management**

Recreational uses such as OHV touring and free-play, hunting, camping, picnicking, and other recreational competitive and commercial activities could be restricted, eliminated, or entirely displaced to other locations due to motorized vehicle limitations designed to protect desert tortoise habitat. Motorized vehicle closures or limitations in tortoise management ACECs could directly affect 10 percent of all visitor use in the SRA (or approximately 173,772 visitor days). Motorized vehicle limitation would cause an increase in semi-primitive motorized recreation opportunities from roaded natural opportunities in the Mormon Mesa/Coyote Springs and Ivanpah ACECs.

#### **From Lands Management**

The disposal of lands within the Dry Lake Valley would affect and possibly eliminate up to five OHV event per year. Approximately 400 racers, 2,000 pit and support crew members, and as many as 10,000 spectators could be impacted. Disposal of 62,879 acres of lands near Jean and Roach Dry Lakes would adversely affect an important OHV race and recreation areas in southern Nevada. The Gold Coast 300, SNORE 250, and the Gold Strike Championship Hare and Hound Motorcycle Event, four of the more important OHV events in SRA, would be negatively impacted. Loss of these lands could affect approximately 75,000 visitor days per year. Two horse endurance events, two model airplane events, two dog trials, a hot air balloon commercial operator, up to 10 commercial film and photography permits, hang gliders, OHV recreationists, and campers would also be affected by disposal of these lands. The disposal of 19,700 acres in the Highland Range area would impact one event, 100 racers, 200 family and pit crew, and spectators annually. Should all 128,401 acres of land involved in the Eldorado Valley Land transfer area be relinquished to the state of Nevada or to some other entity, significant loss of recreation opportunities could occur. Six OHV events, two model airplane events, a commercial ultralight plane operator, and thousands of OHV, camping, ultralight, light aircraft, model rocket, hunting, and other dispersed recreationists per year could be affected through either displacement or elimination of opportunities. Total use either displaced or eliminated could exceed 50,000 visitor days per year.

#### **From Recreation Management**

Under this alternative, less than one percent or 9,180 acres of the resource area would be designated open for unrestricted OHV use (compared to 47 percent under the No Action Alternative), 44 percent or 3,061,686 acres (compared to 51 percent under the No Action Alternative) would be limited to existing roads and trails, 55 percent or 1,124,868 acres (compared to 2 percent under the No Action Alternative) would be limited to



designated roads and trails. Less than 1 percent or 13,190 acres (compared to the No Action Alternative) would be closed to all motorized use. Overall impact to users would be minimal from these designations since very little of the resource area is used for cross-country (off existing roads and trails) travel.

#### **From Rights-of-Way Management**

Designation of a utility corridor through the Sunrise Mountain/Rainbow Gardens area would reduce the aesthetic value of the area as well as create additional roads which would increase visitor use in the area by 10 percent. Designation of rights-of-way avoidance areas in semi-primitive nonmotorized areas would ensure that these opportunities would remain available on 276,570 acres. Avoidance of rights-of-ways on 3,200 acres would ensure protection of significant cave and karst resources from these types of activities. Rights-of-way avoidance would protect 83,100 acres of Red Rock Canyon National Recreation Area from these activities, as well as protecting 306,780 acres of ACECs that have important recreational opportunities. Designating the Big Dune ACEC as a right-of-way exclusion area would ensure the aesthetic and recreational integrity of the area.

#### **From Minerals Management**

Under this alternative, approximately 20 percent (55,314 acres) of all lands which afford opportunities for semi-primitive recreation would be impacted by activities associated with minerals exploration and development. Opportunities for semi-primitive recreation, including hiking and horseback riding, would be eliminated as new road are constructed and increased traffic compromises the primitive character of the landscape. Significant caves would continue to be protected by stipulations and through withdrawals from locateable mineral entry.

#### **From Special Management Areas**

Management of these areas would eliminate OHV competitive events on 1,151,938 acres. The following historically held events would be directly affected: five motorcycle events in the Piute Valley, a motorcycle event in the Mormon Mesa/Moapa area, a motorcycle event in the Ivanpah area, and a motorcycle and a buggy event in the Goodsprings Valley area. Approximately 4,000 participants (racers, pit and chase crews) and 5,000 spectators per year would be impacted. Users would be displaced to other areas, including the Nelson Hills, Jean/Roach Dry Lake, Eldorado Valley, and the Nellis Dunes. This displacement would increase use in the Nelson Hills by 50 percent, in the Jean/Roach Dry Lake area by 25 percent, and in the Nellis Dunes by 50 percent. Use in the Eldorado Valley area would remain constant.

Special management areas would identify 1,134,348 acres as limited to designated roads and trail; 12,190 acres would be closed to all motorized uses. Recreational use is not expected to be significantly impacted, except in the Sunrise Mountain area. The areas so designated do not receive cross-country motorized use and very limited recreation visitor use is currently occurring. Ensuring that users are restricted to designated roads and trails in the Sunrise Mountain area would be difficult due to the extensive network of existing roads and trails and the intensive current use.

### **WILD AND SCENIC RIVERS MANAGEMENT**

The impacts to wild and scenic rivers would be the same as those analyzed in Alternative A.

### **RIGHTS-OF-WAY MANAGEMENT**

Except as specifically analyzed below, the impacts to rights-of-way authorization would be the same as those analyzed in Alternative A.



### **From Rights-of-Way Management**

Under this alternative, approximately 536 miles of utility corridors would be designated, totaling 529,301 acres of public land. Corridors would range from 1 to 3 miles in width; newly-designated corridors would be limited to 2 miles in width within TMAs/ACECs. The corridor segment beginning at the intersection of US 95 and SR 160 and extending east to the Las Vegas area and the "beltway" corridor surrounding Las Vegas would be restricted to powerlines less than 250kv. All other corridor segments in the planning area would be restricted to powerlines of 250kv and larger. No rights-of-way would be authorized within corridors designated in WSAs or ISAs until Congress releases these areas from further wilderness consideration and study. Although utility rights-of-way are not limited to existing corridors, all efforts would be focused on utilizing the corridors to their maximum capacity. The corridors were identified to encompass existing rights-of-way, avoid sensitive resources, and to provide beneficial social and environmental impacts by confining similar uses to a specified area rather than randomly placing them. Prospective right-of-way holders would also benefit from the use of available existing data to expedite the processing of applications. In some instances, the location and size of the corridors could render negative impacts to uses not compatible with the proposed use.

Under this alternative approximately 31 percent of the public lands within the resource area would be designated as right-of-way exclusion areas. Right-of-way exclusion areas would be limited to the following:

#### Linear Rights-of-way -

Hidden Valley District ACEC (3,360 acres)

Sloan Rock Art ACEC (320 acres); Big Dune ACEC (1,000 acres).

#### Areal Rights-of-way (including material site rights-of-way)

All ACECs.

This would constitute a loss of approximately 1,151,938 acres of public land available for areal rights-of-way and material site development and 4,680 acres of public land for linear rights-of-way.

### **WILDERNESS MANAGEMENT**

The impacts to wilderness resources would be the same as those analyzed in Alternative A.

### **MINERALS MANAGEMENT**

The impacts to minerals management, except where specifically analyzed below, would be the same as those identified in Alternative A.

### **From Cultural Resource Management**

Four proposed withdrawals, totaling approximately 12,570 acres, of archaeological, paleontological, and prehistoric sites would close these public lands for mining claim location, mineral leasing, and mineral material disposal.

### **From Lands Management**

Assuming the saleable mineral estate is sold along with the surface estate, disposal of at least 99,391 acres, and possibly 105,109 acres, of the approximately 108,107 acres of public lands within the Las Vegas Valley would significantly decrease the availability of both silt to the landscape industry and sand and gravel to the building

industry. The construction of housing and other structures upon these lands would significantly increase the demand for silt, sand, and gravel which would already be in short supply within the Las Vegas Valley.

#### **From Acquisitions Management**

Assuming that the current owners would be willing to sell, approximately 9,049 acres of private land could be acquired during the life of the RMP; these lands would be available for all forms of mineral exploration and development unless specifically closed by legislative mandates or by subsequent administrative action taken in conformance with the RMP.

#### **From Special Management Areas**

The designation of ACECs would require that a plan of operation be approved prior to commencing any mining operation, except casual use, in those areas. Ten proposed withdrawals, totaling approximately 139,658 acres, of ACECs would limit the availability of public lands for mining claim location, mineral leasing, and mineral material disposal. Approximately 172,218 acres would be closed to mining claim location, mineral leasing, and mineral material disposal.

### **ACQUISITIONS MANAGEMENT**

The impacts to acquisitions would be the same as those analyzed in Alternative A, with the exception of the following.

Where the lands are available and the current owner is willing, the BLM would attempt to acquire approximately 9,049 acres of private land within the following:

- All designated ACECs containing private lands (approximately 8,634 acres)
- Ash Meadows ACEC, outside of the refuge boundary (approximately 415 acres)

### **FIRE MANAGEMENT**

The impacts to fire management would be the same as those identified in Alternative A.

### **SPECIAL MANAGEMENT AREAS**

The impacts to special management areas would be the same as those identified in Alternative A.

### **SOCIO-ECONOMIC VALUES**

The impacts to socio-economic values would be the same as those identified in Alternative A, with the exception of those specifically discussed below.

#### **From Lands Management**

A total of 540,171 acres are identified for discretionary disposal under this alternative. The economic implications of those lands actions would be the same as those identified for Alternative B.



## CUMULATIVE IMPACTS

### INTRODUCTION

Cumulative impacts are those impacts which result from the incremental impact of an action, decision, or project in combination with other past, present, and reasonable foreseeable future actions, regardless of the agency (Federal or non-federal) or person undertaking such other actions. Cumulative impacts can result from individually minor but collectively significant actions over a period of time, from similar projects or actions, and from projects or actions which have similar impacts.

### PARAMETERS

The parameters for the cumulative impact analysis are used in concert with the assumptions for analysis identified in Chapter 4. These focus and direct the analysis effort to ensure that adequate information will be gathered and analyzed in order to make a reasoned decision.

- The cumulative impact analysis will be limited to the anticipated effective life of the Stateline RMP, which is 20 years.
- Air, water, and cultural resources, as well as desert tortoise habitat, are the only resources that will be discussed in the cumulative impact analysis. These resources are affected by both private and BLM actions and are subject to cumulative impacts. All other resources and programs addressed by this RMP are primarily impacted only by BLM actions. The impacts from private actions are either nonexistent or are insignificant. The preceding alternative-by-alternative analysis of impacts is limited to BLM actions.
- Cumulative impacts to air resources will be analyzed only within the Las Vegas Valley Non-Attainment Area. Cumulative impacts to desert tortoise will be analyzed within both the Las Vegas Valley and for the entire planning area (including the Las Vegas Valley).

### PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

#### Past and Present Actions

Past and present actions within the planning area can be divided into two categories: BLM actions and all other types (including other Federal, state, local government, and private actions).

BLM Actions - Past and present BLM actions and BLM-authorized actions are partially identified and described in Chapter 3, *Affected Environment*, and the No Action Alternative of Section 4. Where necessary to support a Reasonable Foreseeable Development Scenario (RFDS), additional information is provided in the appropriate RFDS.

Other Actions - Other past and present actions in the planning area would be difficult, if not impossible, to accurately describe in this document. All private actions that would likely contribute to the cumulative impacts are assumed to have required some type of governmental approval and would, therefore, appear within the



records of the various Federal, state, and local government offices. The time and expenditure of tax dollars to research the appropriate records and enumerate the actions would be prohibitive and the knowledge gained would not necessarily improve the quality of this cumulative analysis.

Actions by local governments are directly tied to either the above-mentioned private actions or to BLM actions. Clark County, Nye County, and the incorporated cities of Las Vegas, North Las Vegas, Henderson, Boulder City, and Mesquite own insignificant amounts of real property. In terms of their cumulative impacts, the local governments serve as permitting agencies for private businesses or individual citizens. Local governments acquire the use of public lands at nominal costs under the auspices of the *R&PP Act*, in order to provide facilities and services such as schools, parks, and fire stations. The impacts of these acquisitions are considered in the discussion of past and present BLM actions.

The following assumptions underlie the cumulative analysis. Regardless of ownership, the amount of private lands that has been developed in the planning area resulted in the removal of these lands for other uses such as wildlife habitat, recreations areas, livestock grazing, and in many cases, mineral exploration and development. Within the planning area as a whole, this acreage is not significant (approximately 252,000 acres or 6 percent of the planning area). In the Las Vegas Valley, however, the impacts from private land development have been more significant (approximately 150,000 acres or 27 percent of the total land area in the Valley). These 150,000 developed acres represent approximately 61 percent of the private lands in the Las Vegas Valley.

The State of Nevada functions primarily in the same role as local governments and owns an insignificant amount of real property in the planning area. Spring Mountain State Park, Valley of Fire State Park, and Floyd Lamb State Park (a total of approximately 42,046 acres or 1 percent of the planning area) constitute the real property of the State of Nevada in the SRA.

### **Reasonably Foreseeable Future Actions**

BLM Actions - The preceding discussion of the RMP alternatives identified a number of different areas to be managed for certain uses; acreage figures identified for these areas will be utilized in this analysis to assess cumulative impacts. Reasonably foreseeable future actions (RFFAs) related to specific on-the-ground activities have been identified. In some cases, a full development scenario has been prepared. Those RFFAs anticipated to result from BLM-initiated and authorized actions are described by resource or program as indicated below.

### **Air, Soil, and Water Resource Management**

No RFFAs are expected to occur in the planning area, as a result of BLM management of air resources. Such management will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.

It is anticipated that the management of soil and water resources will result in RFFAs encompassing approximately 1,000 acres during the life of the RMP. Actions would include the implementation of the Colorado River Salinity Control Project and sediment control projects, including vegetation manipulation.

### **Vegetation Management**

No RFFAs are expected to occur in the planning area as a result of BLM management of vegetation. Management of this resource will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.



## **Riparian Management**

The enhancement/improvement of 15 springs per year at 1/2 acre per spring are projected to occur over the first 5 years of the RMP, for a total of 75 springs and 37.5 acres. A total of 100 springs and 50 acres are projected to be improved over the life of the plan.

Approximately 100 acres of *Tamarix* (salt cedar) will be removed during this time period.

Approximately 41 miles of fence will be constructed around springs (total: 2 miles) and public lands in the Virgin River (total: 39 miles) to prevent grazing impacts to riparian vegetation.

## **Visual Resource Management**

No RFFAs are expected to occur in the planning area as a result of BLM management of visual resources. Management of this resource will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.

## **Fish and Wildlife Habitat Management**

Specific projects needed to improve the management of fish and wildlife habitat in the planning area were identified during the development of the RMP and are shown in Table 4-2.

Up to 400,000 acres of grazing allotments would be bought out by Clark County as part of the implementation of the Short-Term Habitat Conservation Plan for the Desert Tortoise, Clark County, Nevada. These allotments would be managed under voluntary non-use until such time as a study of livestock and desert tortoise interactions is completed and it is shown that livestock grazing is compatible with the recovery of the desert tortoise.

## **Forestry Management**

Based on past use levels, 35 cords of mesquite firewood are projected to be sold on an annual basis, for a total of 700 cords over the life of the RMP.

## **Livestock Grazing Management**

Allotment evaluations were used to identify range improvement projects anticipated to be constructed during the 20 year span of the RMP. These are shown in Table 4-3.

## **Wild Horses and Burro Management**

Specific projects needed to improve management of wild horses and burros in the planning area were identified during the development of the RMP (see Table 4-4).

## **Cultural Resource Management**

No RFFAs are expected to occur in the planning area as a result of BLM management of cultural resources. Management of this resource will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.



**Table 4-2. Proposed fish and wildlife habitat improvements.**

Type of Improvement	#/Units	Miles	Estimated Acres
Big game water developments	20 - 60	--	5 - 15
Spring developments	25 - 45	--	6 - 22
Riparian/aquatic habitat Improvements	5 - 10	--	300
Tortoise proof fencing	--	20 - 30	--
Prescribed burns	--	--	3,000
<b>TOTAL</b>	<b>50 - 115</b>	<b>20 - 30</b>	<b>3,011- 3,337</b>

**Table 4.3. Proposed range improvements.**

Type of Improvement	#/Units	Miles	Estimated Acres
Fences	--	75 - 280	90 - 340
Cattleguards	8 - 20	--	--
Corrals	10 - 30	--	4 - 15
Pipeline	--	24 - 86	24 - 104
Water Hauls	2 - 5	--	.5 - 3
Troughs	24 - 86	--	--
Reservoirs	4 - 10	--	4 - 10
Wells 4 - 8	--	4 - 8	--
Springs (Rework)	8 - 30	--	4 - 15
<b>TOTAL</b>	<b>60 - 189</b>	<b>99 - 366</b>	<b>130.5 - 495</b>



**Table 4-4. Proposed wild horse and burro range improvements.**

Type of Improvement	#/Units	Miles	Estimated Acres
Fences	--	54 - 85	65 - 98
Underpass/Overpass	2	--	2
Pipeline	--	3 - 7	1 - 2
Troughs	8	--	1 - 2
Reservoirs	4	--	4
Springs (Rework)	8 - 12	--	4 - 6
<b>TOTAL</b>	<b>8 - 26</b>	<b>57 - 92</b>	<b>71- 114</b>

## **Lands Management**

### **Sales**

#### ***Santini-Burton Act***

Sales will continue until the lands involved are disposed, as prescribed by Public Law 96-586. Sales will be completed in accordance with Section 203 of FLPMA, at fair market value and will occur only within the Las Vegas area. Based on historical use, sales will range from 1 to 5 acres for smaller parcels, 10 to 20 acres for medium parcels, and 25 to 50 acres for larger parcels.

Total *Santini-Burton Act* disposals completed per year within the past 11 years have been as follows:

Year	Sales Completed	Acres Patented
1981	0	0
1982	0	0
1983	12	34
1984	36	355
1985	25	249
1986	6	44
1987	5	110
1988	8	61
1989	9	38
1990	117	566
1991*	62	375

\* (as of 4-9-91)

Initial Santini-Burton sales were conducted at oral auctions and were not met receptively. Later sales were curtailed due to the National Wildlife Federation Lawsuit which has since been resolved in favor of the BLM.

More recent Santini-Burton sales, conducted through closed bidding procedures, have been more successful. If the program is actively pursued in future years (700 acres per year), the remaining 7,468 acres identified for disposal under P.L. 96-586 should be sold by the year 2002.

### FLPMA Section 203

Disposal of public lands will continue within the areas identified in the alternatives, depending public interest. Sales will be under Section 203 authority at fair market value and will occur throughout the resource area. Based on historical use, sales will range from 1 to 25 acres for smaller parcels, 50 to 150 acres for medium parcels, and 300 to 7,500 acres for larger parcels. The smaller parcels usually receive higher appraisals and generate more revenue to the Federal government.

Total Section 203 disposals completed per year within the past 11 years have been as follows:

Year	Sales Completed	Acres Patented
1981	0	0
1982	0	0
1983	1	43
1984	0	0
1985	2	46
1986	1	18
1987	1	10
1988	0	0
1989	1	3
1990	1	1,080
1991*	0	0

\* (as of 4-9-91)

Projections for the next 20-year period:

Small sales = 14 sales in 20 yrs. = 14 @ 14 - 350 acres  
 Medium sales = 5 sales in 20 yrs. = 5 @ 250 - 750 acres  
 Large sales = 1 sale in 20 yrs. = 1 @ 300 - 7,500 acres  
 20 @ 564 - 8,600 acres

Previous yearly sales and the priority given to the Santini-Burton land sales indicate there would be no substantial change in the percentage of sales completed during the first year or two after the RMP is put into effect. Each alternative identified a number of public lands for sale which have never been offered on the open market. This could stimulate private sale requests and speculation by commercial interests within the next 20-year period.

### *Recreation and Public Purposes Act*

Disposal of public lands will continue within the areas identified as available for R&PP actions in each alternatives. Disposals will be at less than fair market value to accommodate state and local government entities



and nonprofit organizations seeking community facilities that could not otherwise be afforded. Based on historical use, sales will range from 5 to 15 acres for smaller parcels, 20 to 80 acres for medium parcels, and 100 to 300 acres for larger parcels.

Total Recreation and Public Purposes disposals completed per year within the past 11 years are as follows:

Year	Sales Completed	Acres Patented
1981	2	20
1982	1	5
1983	3	57
1984	0	0
1985	2	8
1986	2	485
1987	2	13
1988	0	0
1989	0	0
1990	2	84
1991*	0	0

\* (as of 4-9-91)

Projections for the next 20-year period, based on recreation and public purposes patents issued in previous years and anticipated rapid growth, are as follows:

Small sales = 20 sales in 20 yrs. = 20 @ 100 - 300 acres  
 Medium sales = 15 sales in 20 yrs. = 15 @ 300 - 1200 acres  
 Large sales = 5 sales in 20 yrs. = 5 @ 500 - 1500 acres  
 40 @ 900 - 3,000 acres

### Leases

#### **FLPMA Section 302**

Under each alternative, except Alternative C which excludes such use, Section 302 leases or permits will continue to be authorized on public lands throughout the resource area. All public lands within the resource area, other than ACECs, will be available at fair market value to meet the needs of growing communities, industry, and free enterprise. Section 302 authorization may also be used to resolve suspected trespass. Based on historical use, leases/permits will range from 1 to 10 acres for small sites, 20 to 50 acres for medium sites, and 75 to 100 acres for larger sites.

Total Section 302 leases or permits completed per year within the past 11 years are as follows:

Year	Leases/Permits Authorized	Acres Authorized
1989	1	3
1990	2	27

Based on previous yearly numbers and the policy of the BLM to dispose of lands through sale or exchange rather than encumber them with temporary or long-term leases, approximately six Section 302 leases for an approximate 50 acres will be authorized for the next 20-year period. If the resource area takes a pro-active stand on trespass activity, lease at fair market may be a viable resolution.

### ***Recreation and Public Purposes Act***

Lease of public lands will continue within the resource area on the lands identified as available for recreation and public purposes in each of the alternatives. Leases will be at less than fair market value to accommodate state and local government entities and nonprofit organizations seeking community facilities that could not otherwise be afforded. Based on historical use, leases will range from 5 to 15 acres for small sites, 20 to 80 acres for medium sites, and 100 to 300 acres for larger sites.

Total Recreation and Public Purposes leases completed per year within the past 10 years have been as follows:

<b>Year</b>	<b>Leases Authorized</b>	<b>Acres Authorized</b>
1981	1	37
1982	4	1,150
1983	0	0
1984	4	55
1985	4	53
1986	8	1,513
1987	7	585
1988	12	685
1989	7	355
1990	20	561
1991*	32	592

\* (total numbers projected for 1991 are based on figures taken from computer printout of cases pending and authorized dated 4-9-91)

Projections for the next 20-year period:

Small leases = 40 leases in 20 yrs. =	40 @ 200 - 600 acres
Medium lease = 100 leases in 20 yrs. =	100 @ 2,000 - 8,000 acres
Large leases = 40 leases in 20 yrs. =	<u>40 @ 4,000 - 12,000 acres</u>
	180 @ 6,200 - 20,600 acres

### **Airport**

Under Alternatives A and C, airport leasing will continue on those lands within a two-mile radius of Jean and Searchlight, and within a three-mile radius of Pahrump. In all other alternatives, all public lands within the planning area, with the exception of ACECs, will be available for airport leasing. Leases will be authorized under the authority of the Act of May 24, 1928, as amended, at less than fair market value, to meet the need for public airport facilities in small and growing communities that could not otherwise be afforded.



Total airport leases authorized per year within the past 10 years are as follows:

Year	Leases Authorized	Acres Authorized
1983	2	290
1985	1	184
1989	1	517

Based on previous years and the current show of interest in certain areas for public airport purposes by Nye and Clark Counties, the total number of airport leases authorized for the next 20-year period will be approximately six, for an approximate total of 2,000 acres.

### **Agriculture Entry**

#### ***Indian Allotment***

There will be no Indian Allotments authorized under Alternatives A, B, C, or the Preferred Alternative. Under the No Action Alternative, one Indian Allotment was authorized in 1984 consisting of 160 acres.

#### ***Desert Land Entry***

There will be no Desert Land Entries authorized under Alternatives A, B, C, or the Preferred Alternative. Under the No Action Alternative, two Desert Land Entries were authorized in 1990 consisting of 498 acres.

#### ***Carey Act***

There will be no Carey Act Grants authorized under Alternatives A, B, C, or the Preferred Alternative. Under the No Action Alternative, there have been no Carey Act Grants authorized to date.

### **Conveyances**

#### **FLPMA Section 209**

Before the enactment of FLPMA in 1976, there were no provisions for obtaining the subsurface estate of no known value with the sale of the surface estate. Although FLPMA provided for the sale of the subsurface estate, until 4 or 5 years after its enactment there was no program in place to aggressively pursue simultaneous sale of both the surface and subsurface estates. In the past 9 or 10 years, the sale of the subsurface estate of no known value with the surface estate has been made a condition of the sale. This action has established an awareness by the public of the probable availability of the subsurface; more people are submitting applications for conveyance of the mineral estate on public sale parcels purchased after 1976. It is probable that this trend will continue into the future, but at a declining rate since both estates are being conveyed simultaneously, when appropriate, with BLM motion sales.

Issuance of Section 209 conveyances will be for the mineral estate of no known value under the following conditions: 1) if Federal ownership precludes appropriate non-mineral development, and 2) such development is a more beneficial use of the land than the mineral development. Based on historical use, conveyances will range from 1.5 to 5 acres for small parcels, 10 to 40 acres for medium parcels, and 50 to 200 acres for large parcels.

Total Section 209 conveyances issued per year within the past 10 years have been as follows:

Year	Conveyances Completed	Acres Patented
1981	0	0
1982	0	0
1983	17	2,142
1984	16	140
1985	16	120
1986	5	58
1987	7	160
1988	9	66
1989	0	0
1990	1	95
1991*	0	0

\* (as of 4-9-91)

Based on previous years and the fact that both the surface and subsurface estates are now disposed of simultaneously, there will probably be a gradual decline in this type of conveyance.

Projections for the next 20-year period:

Small conveyances =	40 conveyances in 20 yrs. =	40 @ 60 - 200 acres
Medium conveyances =	25 conveyances in 20 yrs. =	25 @ 250 - 1,000 acres
Large conveyances =	5 conveyances in 20 yrs. =	<u>5 @ 250 - 1,000 acres</u>
		70 @ 560 - 2,200 acres

### Exchanges

Disposal of lands under the exchange authorities will continue under any of the alternatives as long as the BLM encourages local government and private individuals to purchase environmentally sensitive lands, or lands rich in valuable resources which would enhance Federal land management. These lands could then be exchanged for public lands. All exchanges may not occur in the areas identified as interested parties outside the state may seek legislative exchange of lands. Based on historical use, exchanges will range from 50 to 300 acres for small parcels, 500 to 1,000 acres, and 2,000 to 10,000 acres for large parcels.

Total exchanges completed per year in the past 10 years have been as follows:

Year	Exchanges Completed	Acres Patented
1987	1	98
1988	4	37,685
1990	1	95



**Projections for the next 20-year period:**

## Withdrawals

Total withdrawals completed per year in the past 10 years are as follows:

Based on previous years, some lands already under withdrawal are in the process of being relinquished back to the BLM. Given the protective withdrawals that will be designated by this RMP, the possibility exists for a decrease in the number of withdrawals requested.

Projections for the next 20-year period:

4-114

### **Natural Areas Management**

No RFFAs are expected to occur in the planning area as a result of BLM management of natural areas. Management of this resource will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.

### **Recreation Management**

It is anticipated that 680 - 820 competitive OHV events will be authorized on 1,200 - 1,520 miles of existing courses during the life of the RMP. An additional 300 competitive events will be authorized on 9,180 acres within the Nellis Dunes SRMA; the entire area is anticipated to be impacted during the life of the RMP.

### **Wild and Scenic Rivers Management**

No RFFAs are expected to occur in the planning area as a result of BLM management of the wild and scenic rivers program. Management of this resource will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.

### **Rights-of-Way Management**

#### **Linear**

Requests for linear rights-of-way across public lands within the Stateline Resource Area will continue in conjunction with private lands development. Rights-of-way will include access roads and highways, water and power utility lines, sewage lines and flood control channels. Based on historical use, future rights-of-way will range from 0.5 to 1 acre for small projects, 5 to 20 acres for medium projects, and 100 to 500 acres for large projects. Most rights-of-way will occur within the Las Vegas Valley (80 percent), Laughlin (4 percent), Pahrump (7 percent), Mesquite (3 percent), Moapa (3 percent) and Searchlight (3 percent).

The number of linear rights-of-way authorized within the Stateline Resource Area per year in the past 11 years has been as follows:

<b>Year</b>	<b>Requests Authorized</b>	<b>Acres Authorized</b>
1981	24	409
1982	19	6,745
1983	15	271
1984	61	85
1985	6	739
1986	22	561
1987	23	695
1988	112	11,047
1989	74	10,345
1990	81	1,115
1991*	80	6,060

\* (total numbers projected for 1991 are based on figures taken from computer printout of cases pending and authorized dated 4-9-91)



Projections for the next 20-year period:

Small rights-of-way (R/W) = 660 R/W in 20 yrs. =	660 @ 330 - 660 acres
Medium rights-of-way (R/W) = 240 R/W in 20 yrs. =	240 @ 1,200 - 4,800 acres
Large rights-of-way (R/W)* = 40 R/W in 20 yrs. =	<u>40 @ 4,000 - 20,000 acres</u>
	940 @ 5,530 - 25,460 acres

\* (it is expected that large rights-of-way will be placed within designated corridors.)

### Areal

Requests for areal (nonlinear) rights-of-way on public lands within the Stateline Resource Area will continue with population growth and the need for co-facilities for linear rights-of-way. Rights-of-way will include communication sites, flood control basins, water and power utility substations, well sites and sewage ponds. Based on historical use, future rights-of-way will range from one to 5 acres for small projects (such as communication sites), 10 to 50 acres for medium projects, and 100 to 500 acres for large projects. Most rights-of-way will occur within the Las Vegas Valley (80 percent), Laughlin (4 percent), Pahrump (7 percent), Mesquite (3 percent), Moapa (3 percent) and Searchlight (3 percent).

The number of areal rights-of-way authorized within the Stateline Resource Area per year in the past 11 years has been as follows:

Year	Requests Authorized	Acres Authorized
1981	6	16
1982	4	4
1983	11	452
1984	8	495
1985	6	739
1986	8	218
1987	8	81
1988	70	103,917
1989	49	100,953
1990	33	1,273
1991*	36	288

\* (total numbers projected for 1991 are based on figures taken from computer printout of cases pending and authorized dated 4-9-91)

Projections for the next 20-year period:

Small rights-of-way (R/W) = 300 R/W in 20 yrs. =	300 @ 300 - 1,500 acres
Medium rights-of-way (R/W) = 100 R/W in 20 yrs. =	100 @ 1,000 - 5,000 acres
Large rights-of-way (R/W) = 40 R/W in 20 yrs. =	<u>40 @ 4,000 - 20,000 acres</u>
	440 @ 5,300 - 26,500 acres

### Linear and Areal Combined

All requests for rights-of-way on or across public lands are not strictly linear or areal. Some rights-of-way are a combination of both types. Examples include flood water detention basins and related flood control channels; electric power generation stations and related transmission lines; water wells and related water distribution lines; and communication sites and related access roads. Based on historical use, future rights-of-way will range from 1 to 5 for small projects, 10 to 40 acres for medium projects, and 50 to 100 acres for large projects. Most rights-of-way will be within the Las Vegas Valley (80 percent), Laughlin (4 percent), Pahrump (7 percent), Mesquite (3 percent), Moapa (3 percent), and Searchlight (3 percent).

The number of linear and areal combined rights-of-way authorized within the Stateline Resource Area per year in the past 11 years has been as follows:

Year	Requests Authorized	Acres Authorized
1981	1	3
1982	4	6
1983	3	114
1984	0	0
1985	0	0
1986	4	14
1987	1	7
1988	3	41
1989	4	10
1990	2	17
1991*	4	8

\* (total numbers projected for 1991 are based on figures taken from computer printout of cases pending and authorized dated 4-9-91)

Projections for the next 20-year period:

Small rights-of-way (R/W) = 20 R/W in 20 yrs. =	20 @ 20 - 100 acres
Medium rights-of-way (R/W) = 20 R/W in 20 yrs. =	<u>20 @ 200 - 800 acres</u>
	40 @ 220 - 900 acres

### Material Sites

Material site rights-of-way are addressed in the RFFAs for minerals.

### Wilderness Management

No RFFAs are expected to occur in the planning area as a result of BLM management of the wilderness program. Management of this resource will continue to emphasize land use restrictions and project or site-specific constraints and mitigation.



## **Minerals Management**

Reasonably foreseeable future actions resulting from BLM management of minerals are described in detail in the following scenarios:

### **Fluid Minerals**

#### **Undiscovered Resources**

According to Garside et al (1988), the first exploration well to have been drilled in Clark County was completed in 1929 near Arden, 15 miles southwest of Las Vegas. An area near Mesquite in the northeastern part of the county was touted as a prospective oil area but no wells are known to have been drilled in Nevada as a result of the promotion.

Some sporadic drilling was done in the 1940s, but the more serious efforts began in 1950 when exploration throughout Nevada increased significantly. Although a number of wells have reported oil shows, the lack of a discovery and the general decrease in Nevada drilling in the late 1960s and early 1970s resulted in few wells being drilled in Clark County until the early 1980s. Some of these recent wells were drilled to test the possibility of "overthrust belt" oil fields like those in western Wyoming and northeastern Utah.

The deepest well drilled in Nevada to date is in Clark County on Mormon Mesa. In 1980, Mobil Oil Corporation drilled the Virgin River U.S.A. No. 1-A to a depth of 19,562 feet. It was an unsuccessful overthrust test.

#### **Geophysical Data Acquisition**

Acquisition of seismic data will continue in the future. Lines will be run to obtain additional data in the vicinity of previous wells and in outlying areas. It is estimated that approximately ten miles of seismic lines will be run each year. The best available technique will be used when completing these surveys and could be either energy or non-energy type studies. Energy type studies include vibration, above ground shot, shallow hole shot or deep hole shot methods. Non-energy type studies could include magnetic declination surveys and the use of remote sensing techniques. Vibration and non-energy type studies generally cause negligible surface disturbance while the use of explosives will cause some surface disturbance.

#### **Oil Exploration Activity**

Exploration for oil and gas will undoubtedly continue in the future. This exploration will include seismic surveys and wildcat drilling. It is anticipated that 40 wildcat wells will be drilled in the next 20 years. It is also anticipated that these wells will not lead to the discovery of any oil fields. This is contrary to the current industry standard that for every 20 wildcat wells drilled, one will have a discovery. To date, 65 wildcat wells have been drilled in the Stateline Resource Area without any discovery. Assumptions are made as follows:

1. Drill pads will encompass  $160,000 \text{ ft}^2$  (400 feet x 400 feet) and will be constructed on a gravel base that is  $2\frac{1}{2}$  feet deep utilizing  $400,000 \text{ ft}^3$  ( $160,000 \text{ ft}^2 \times 2\frac{1}{2}$  feet) of gravel.
2. Two miles of access road will be required for each well. The roads will be 20 feet wide and disturb  $211,200 \text{ ft}^2$  (10,560 feet x 20 feet). They will be constructed on a gravel base that is two feet deep utilizing  $211,200 \text{ ft}^3$  ( $105,600 \text{ ft}^2 \times 2$  feet) of gravel.
3. All gravel will be obtained locally. Gravel pits will not be more than 10 feet deep.

Total disturbances are as follows:

Pads --  $160,000 \text{ ft}^2/\text{pad} \times 40 \text{ pads} = 6,400,000 \text{ ft}^2 \div 43,560 \text{ ft}^2/\text{acre} = 146.92 \text{ acres}$

Roads --  $211,200 \text{ ft}^2/\text{road} \times 40 \text{ roads} = 8,448,000 \text{ ft}^2 \div 43,560 \text{ ft}^2/\text{acre} = 193.94 \text{ acres}$

Gravel pits --  $125,000 \text{ ft}^3/\text{pad} + 211,200 \text{ ft}^3/\text{road} = 336,200 \text{ ft}^3/\text{pad-road} \times 40 \text{ pads-roads} = 13,448,000 \text{ ft}^3 \div 10 \text{ feet maximum depth} = 1,344,800 \text{ ft}^2 \div 43,560 \text{ ft}^2/\text{acre} = 30.87 \text{ acres}$

<u>Disturbance</u>	<u>Acres</u>
Pads	146.92
Roads	193.94
<u>Gravel pits</u>	<u>30.87</u>
TOTAL	371.73

Acreage disturbed would be 371.73 acres. This is equal to 0.007 percent of the resource area (371.73 acres  $\div$  5,123,705 acres). It is important to note that reclamation requirements apply to all of these acres. These estimates do not account for reclamation. It is expected that all disturbed areas will be eventually reclaimed.

### **Oil Field Development**

It is anticipated that no oil fields will be developed within the resource area during the 20 years anticipated life of this plan. If an oil field is discovered, this plan will require an amendment before the oil field can be developed.

### **Locatable Minerals**

To formulate scenarios, several generic "Mining Notices" and "Plans of Operations" will be developed in order to understand the potential impacts to Federal lands. The models will provide a range of projected disturbances and an array of probable land uses. In reality, disturbances would vary from deposit to deposit.

### **Scenario Models**

#### **(A) Exploration -- mining notice**

In this operation, there can be roads, drill pads, trenches, and cut and fill roads. Average disturbance will be 3 acres per year per notice. An average drill program will range from one to 15 holes per year. A typical pad will be 20 feet wide by 40 feet long. Holes will often be drilled in roads with the latter serving as the drill pad. Cumulative unreclaimed disturbance is not allowed to exceed 5 acres in any individual project area.

#### **(B) Mining Operation -- mining notice**

In this operation, the miner can be pursuing a placer deposit or a lode deposit. A front end loader and a bulldozer may be utilized. Typically, the miner is following high grade mineralization that requires minimal processing facilities. Average disturbance ranges from two to four acres per year. Cumulative unreclaimed disturbance is not allowed to exceed 5 acres in any individual project area.



(C) Exploration -- plan of operations

In this operation, the mining operator will disturb 5-10 acres of land per year. These projects do not normally last more than 2-5 years. Roads, trenches, and drill pads will be the predominant surface disturbances. An average drill program will range from 15 to 30 holes per year. Up to 200 holes may be drilled in the project area. Closer spacing of holes and more intense programs are normally associated with the defining of a mineral resource. These programs normally cover a larger area than is covered by a mining notice. It is possible that some of these programs will start under a mining notice and then change to a plan of operations when they exceed the surface disturbance threshold of 5 acres.

(D) Small Enterprise -- plan of operations

In this operation, a small scale operator will pursue a working mine. The small scale operator may be mining a high grade deposit, old tailings, or a deposit which is too small for the larger operators. This operation could be the mining of building stone, industrial minerals, precious metals, or gems. The operators will attempt to operate within favorable economic windows with little capital investment and low operating costs. This operation may employ one to five people. The disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Roads	2 - 5
Processing facilities	1 - 2
Heap leach sites	0 - 10
Administrative sites	$\frac{1}{2}$ - 1
Pit or scrape	$\frac{1}{2}$ - 10
Ore stockpiles	$\frac{1}{2}$ - 4
<u>Overburden storage</u>	<u><math>\frac{1}{2}</math> - 5</u>
TOTAL	5 - 37

(E) Small to Moderate Mine -- plan of operations

This operation could be mining industrial minerals, base metals, precious metals, or gems. It could be an open pit gold heap leach operation utilizing a leachate such as cyanide. This mine would have an open pit to pursue the desired commodity. A processing or mill facility will be required. A heap leach pad will only be used for the gold operation. Typically, gold deposits will be low grade with a cut-off grade of 0.025 ounces of gold per ton. This operation could have grades of 0.05 to 0.1 ounces of gold per ton, but the high grade ore would be the exception. In place gold reserves will be in the neighborhood of 50,000 to 100,000 total ounces of gold. Normally, this operation will employ 15 to 40 people and have a mine life of three to six years. The disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Roads	6 - 10
Open pit	10 - 20
Ore stockpile	5 - 30
Leach pads and ponds	20 - 30
Plant facilities	0 - 5
Power lines	0 - 5
Water wells	1 - 5
<u>Overburden/waste</u>	<u>40 - 65</u>
TOTAL	82 - 170

(F) Large Mine -- plan of operations

This operation could be mining industrial minerals, base metals, precious metals, or gems. This mine would have one or more open pits to pursue the desired commodity. A processing or mill facility will be required. A heap leach pad will only be used for gold operations. The size of the open pit, type of processing facility, and method of tailings disposal will be dependent upon the commodity being mined. A molybdenum/copper circuit will require large tailings disposal areas than a gold circuit. Normally, this operation will employ 300 to 600 people and have a mine life of 7 years or more. More employees are likely during construction phases of the operation. Water wells, power lines, parking facilities, and other ancillary facilities will be required in advance of production. Disturbance is going to be greatly influenced by terrain and the engineering ability to use the existing topographic features. The projected disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Open pits	100 - 500
Leach pads and ponds	100 - 500
Mill buildings	15 - 160
Overburden storage	100 - 400
Tailings ponds	0 - 1,700
Haul roads	30 - 50
Ore stockpiles	30 - 50
Administration, engineering, shop maintenance buildings	50 - 100
<u>Access roads</u>	<u>5 - 50</u>
TOTAL	430 -3,510

(G) Brine Mine -- plan of operations

This operation would pump one or a combination of the following brines: lithium, sodium, potassium, boron, magnesium, or any metal bearing brine from the aquifer. A series of evaporation ponds would be constructed. The solution would be allowed to concentrate in the ponds. The solution concentrates as the water evaporates. The concentrated solution is run through a mill to remove the desired product. Salt would ultimately be the product left in the pond. The salt or metal or both are sold as the desired product. The projected disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Processing facilities	10 - 25
Pipelines and roads	50 - 150
Power lines	5 - 20
Evaporation ponds	1,500 - 5,000
Well sites	5 - 20
Salt storage	50 - 150
Overburden storage	50 - 50
<u>Administrative sites</u>	<u>5 - 25</u>
TOTAL	1,675 - 5,440

(H) Expansion -- plan of operations

This operation will not be a wholly new mining venture. This model will take place adjacent to an existing operation. It will be an expansion of an existing mine to take advantage of a new ore deposit, new technology, changing economics, or changing company philosophy. A mine can have more than one expansion during its



life. This acreage can be used for a new open pit, pit expansion, leach pad, facilities, tailings expansion, waste rock expansions, etc. This model is projected to disturb 120 to 360 acres.

#### (I) Underground Mine -- plan of operations

In this operation, the operator can be mining base metals, precious metals, or gems. This operation will require a higher grade of ore than is needed for an open pit mine. While an underground mine requires less surface acres than an open pit mine, the costs to remove a ton of material are much higher. Indirect impacts of subsidence and acid water drainage can result from this operation. The mine and processing facilities will often be separated to take advantage of terrain. Typically, an underground mine will be very capital intensive and require extensive development work in advance of production. Normally, this operation will employ 50 to 175 people and have a mine life of 8-15 years. The projected disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Roads	5 - 50
Processing facilities	5 - 15
Headframe or portal	5 - 10
Ventilation	5 - 10
<u>Tailings disposal</u>	<u>25 - 50</u>
TOTAL	45 - 135

#### **Future Exploration Activity**

Exploration is going to continue across the Stateline Resource Area. Drilling programs are attempting to accomplish one or both of the following goals:

1. Complete assessment work in order to hold the claims pursuant to the Mining Law of 1872 as amended.
2. Evaluate a mineralized area as a potential mine.

Work during this foreseeable future will be done across the entire resource area in mineral potential zones rated as low, moderate, and high. Programs will be concentrated within mining districts, around existing mines, and around new discoveries. It is projected that 80 new Scenario "A" operations will take place each year along with 20 amendments to existing mining notices. It is projected that 30 new Scenario "C" operations will take place each year along with five amendments to existing plans of operations. During a year, exploration pursuant to a mining notice will disturb 300 acres  $[(80 + 20)(3 \text{ acres})]$  while exploration pursuant to plans of operations will disturb between 175 and 350 acres  $[(30 + 5)(5 \text{ acres to } 10 \text{ acres})]$ . This exploration will be outside of existing mine project areas. This will total between 475 and 650 acres of new disturbance each year.

Operations mining pursuant to a Scenario "B" mining notice will stay constant. Currently, there are 20 such operations within the resource area. These operations will relocate during the life of a plan of operations, but the acreage will remain constant. This will total between 40 and 80 acres  $[(20)(2 \text{ acres to } 4 \text{ acres})]$  of existing disturbance each year. Generally, these operators are going to be working in historic mining districts.

#### **Future Mining Activity**

##### Projections

Projections follow for operations in the resource area. Scenarios "D" through "I" are being used in the foreseeable development scenario. Scenarios "D" through "G", and Scenario "I" will be new mines or actions,

not existing operations. Only Scenario "H" will be tied to existing mines. These actions will be mainly projected in moderate or high potential zones, although many factors could lead to development in low potential areas. Based upon the proposed 20 year life of the RMP, total projections are as follows:

<u>Scenario</u>	<u>Number</u>	<u>Total Acreage</u>
A	100 x 20 = 2,000	(2,000)(3) = 6,000 to 6,000
B	20 x 20 = 400	(400)(2 to 4) = 800 to 1,600
C	35 x 20 = 700	(700)(5 to 10) = 3,500 to 7,000
D	2 x 20 = 40	(40)(5 to 37) = 200 to 1,480
E	1 x 20 = 20	(20)(82 to 170) = 1,640 to 3,400
F	0.1 x 20 = 2	(2)(430 to 3,510) = 860 to 7,020
G	0 x 20 = 0	(0)(1,675 to 5,440) = 0 to 0
H	1 x 20 = 20	(20)(120 to 360) = 2,400 to 7,200
I	0.1 x 20 = 2	(2)(45 to 135) = 90 to 270
TOTAL	159.2 x 20 = 3,184	15,490 to 33,970

Acreage disturbed would range from a low of 15,490 acres to a high of 33,970 acres. It is important to note that reclamation requirements apply to all of these acres. These estimates do not account for reclamation.

Percentages of the resource area disturbed by mining operations in the minimum and maximum development scenarios are as follows:

Minimum -- 15,490 acres ÷ 5,123,705 acres = 0.368 percent

Maximum -- 33,970 acres ÷ 5,123,705 acres = 0.807 percent

#### Current Disturbance

Casefile types and acres disturbed from fiscal year 1981 through fiscal year 1990 is summarized below:

<u>Type</u>	<u>Active</u>	<u>Inactive</u>	<u>Closed</u>	<u>Total</u>
Non-Wilderness Plans	39	2	60	101
Wilderness Plans	3	4	1	19
Notices	125	0	291	416
<u>TOTAL</u>	<u>167</u>	<u>6</u>	<u>363</u>	<u>536</u>

From 1981 through 1990, the disturbance proposed to be done under mining notices was 1,248 acres (416 x 3 acres). The disturbance proposed to be done under plans of operation was 4,440 acres (120 x 37 acres). The disturbance proposed to be done under both notices and plans was 5,688 acres (1,248 + 4,440). Not all of this acreage was disturbed. In order to close a mining notice casefile, all disturbed areas must be reclaimed to the standard described in 43 CFR 3809.1-3(d). In order to close a plan of operations casefile, all disturbed areas must be reclaimed to the standard described in the approved plan.

Reclaimed mining notices equal 873 acres (291 x 3 acres). Reclaimed plans of operation equal 2,664 acres (72 x 37 acres). Total reclamation of both notices and plans equals 3,537 acres (702 + 2,664). Percentages of the disturbances caused by mining operations which have been reclaimed are as follows:

Notices -- 873 acres ÷ 1,248 acres = 69.95 percent

Plans -- 2,664 acres ÷ 4,440 acres = 60.00 percent

Total -- 3,537 acres ÷ 5,688 acres = 62.40 percent

Unreclaimed mining notices equal 375 acres (125 x 3 acres). Unreclaimed plans of operation equal 1,776 acres



(48 x 37 acres). Total unreclaimed areas of both notices and plans equals 2,151 acres (375 + 1,776).

#### Combined Disturbance

Adding the current disturbance to the projected disturbance gives the total surface disturbance, both projected and existing, in the resource area as follows:

Minimum -- 15,490 acres + 2,151 acres = 17,641 acres

Maximum -- 33,970 acres + 2,151 acres = 36,121 acres

Percentages of the resource area disturbed by mining operations in the minimum and maximum development scenarios are as follows:

Minimum -- 17,641 acres ÷ 5,123,705 acres = 0.344 percent

Maximum -- 36,121 acres ÷ 5,123,705 acres = 0.705 percent

No reclamation has been applied to the new disturbance. BLM policy is to encourage concurrent reclamation on all projects. All operations in excess of 5 acres require proper bonding.

#### Summary of Disturbance

A complete table of disturbance from 1981 through 1990 and projected 20 years into the foreseeable future is as follows:

<u>Category of Disturbance</u>	<u>Percent of Acres</u>	<u>Resource Area</u>
Notices and plans proposed from 1981 through 1990	5,688	0.111
Notices and plans proposed from 1981 through 1990 and still requiring reclamation	2,151	0.042
Foreseeable future low	15,490	0.302
Foreseeable future high	33,970	0.663
Total unreclaimed and foreseeable future low	17,641	0.344
Total unreclaimed and foreseeable future high	36,121	0.705

#### Mineral Materials

Modifications of the exploration and mining scenarios for locatable minerals will be used to explore the potential impacts of this resource. These scenarios include all reasonably foreseeable sand and gravel development activities whether these materials are presently being mined as a saleable mineral, locatable mineral, leasable mineral, or material site right-of-way.

Mineral materials extraction will take place as close to the project as possible. Areas that will require materials include the cities of Boulder City, Henderson, Las Vegas, Mesquite, North Las Vegas and Pahrump, the towns of Amargosa Valley, Arden, Blue Diamond, Bunkerville, Cal-Nev-Ari, East Las Vegas, Glendale, Goodsprings, Green Valley, Indian Springs, Jean, Lathrop Wells, Laughlin, Logandale, Moapa, Nelson, Overton, Paradise, Sandy Valley, Searchlight, Sloan, Spring Valley, Sunrise Manor, and Winchester, as well as the Apex industrial site, Nellis Air Force Base, and Yucca Mountain nuclear repository site.

The resource area contains numerous major paved road systems including the following:

Interstate Highway 15-- Stateline through Las Vegas to Mesquite  
U.S. Highway 93-- Arrow Canyon through Las Vegas to Hoover Dam  
U.S. Highway 95-- Beatty through Las Vegas to I-40  
Nevada State Highway 144-- Mesquite (old highway)  
Nevada State Highway 146-- I-15 at Sloan to Henderson  
Nevada State Highway 14-- Henderson to Lake Mead National Recreational Area  
Nevada State Highway 156-- Lee Canyon Road  
Nevada State Highway 157-- Kyle Canyon Road  
Nevada State Highway 158-- NV-156 through Deer Creek to NV-157  
Nevada State Highway 159-- Las Vegas through Blue Diamond to NV-160  
Nevada State Highway 160-- I-15 through Arden through Pahrump to US-95  
Nevada State Highway 161-- Jean through Goodsprings to Sandy Valley  
Nevada State Highway 163-- US-95 to Laughlin  
Nevada State Highway 164-- I-15 at Mountain Pass through Searchlight to Cottonwood Cove  
Nevada State Highway 165-- US-95 to Nelson  
Nevada State Highway 168-- Arrow Canyon through Moapa to I-15 at Glendale  
Nevada State Highway 169-- I-15 at Glendale through Logandale to Overton  
Nevada State Highway 170-- I-15 through Bunkerville to I-15  
Nevada State Highway 372-- Pahrump to California-Nevada border  
Nevada State Highway 373-- Lathrop Wells to California-Nevada border  
Nevada State Highway 374-- Beatty to California-Nevada border  
Nevada State Highway 604-- Las Vegas Boulevard (old highway)

There are several other small paved spurs providing access. These paved highways, as well as the extensive road network within the Las Vegas Valley, will require maintenance, rebuilding, and continued sources of materials. Landscape rock will be mined from the Arden and Flagstone quarries.

## **Scenario Models**

### **(V) Sampling and testing activities**

In this operation, the exploration activities will disturb five to ten acres of land per year. These activities do not normally last more than one year. Roads, trenches, and drill holes will be the predominant surface disturbances. An average drill program will range from 15 to 30 holes per year. Up to 200 holes may be drilled in the project area. Closer spacing of holes and more intense programs are normally associated with the defining of a sand and gravel deposit. These activities normally cover a larger area than is covered by a material site right-of-way or free use permit. All sampling and testing is authorized under 43 CFR 3602. Ultimately, federally aided highway projects may be granted material site rights-of-way under 43 CFR 2800 while all other projects may be granted free use permits under 43 CFR 3620.



(W) Community pit operations

In this operation, the operator may be pursuing a small sand and gravel deposit. A front end loader and a bulldozer may be utilized. Typically, the operator will extract material that requires minimal processing facilities. Average disturbance ranges from 2-4 acres per year.

(X) Small size pit operations

In this operation, a small scale operator will pursue a working open pit mine. The small scale operator may be mining a high grade deposit or a deposit which is too small for the larger operators. This operation could be the mining of sand and gravel, building stone, or other common variety minerals. The operators will attempt to operate within favorable economic windows with little capital investment and low operating costs. This operation may employ one to five people. The disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Roads	$\frac{1}{2}$ - $\frac{1}{2}$
Processing facilities	$\frac{1}{2}$ - $\frac{1}{2}$
Pit or scrape	1 - 2
Material stockpiles	$\frac{1}{2}$ - $\frac{1}{2}$
<u>Overburden storage</u>	$\frac{1}{2}$ - $\frac{1}{2}$
TOTAL	2 - 4

(Y) Moderate size pit operations

This operation could be mining sand and gravel, building stone, or other common variety minerals. This mine will have an open pit to pursue the desired commodity. A processing facility will be required. Normally, this operation will employ 15 to 40 people and have a mine life of three to six years. The disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Roads	$\frac{1}{2}$ - 1
Processing facilities	$\frac{1}{2}$ - 1
Pit or scrape	2 - 10
Ore stockpiles	$\frac{1}{2}$ - 2
<u>Overburden storage</u>	$\frac{1}{2}$ - 2
TOTAL	4 - 16

(Z) Large size pit operations

This operation could be mining sand and gravel, building stone, and other common variety minerals. This mine would have one or more open pits to pursue the desired commodity. A processing or mill facility will be required. The size of the open pit, type of processing facility, and method of overburden disposal will be dependent upon the commodity being mined. Normally, this operation will employ 50 to 300 people and have a mine life of 7 years or more. More employees are likely during construction phases of the operation. Water wells, power lines, parking facilities, and other ancillary facilities will be required in advance of production. Disturbance is going to be greatly influenced by terrain and the engineering ability to use the existing topographic features. The projected disturbance is as follows:

<u>Disturbance</u>	<u>Total Acres</u>
Roads	1 - 4
Processing facilities	1 - 4
Pit or scrape	10 - 40
Ore stockpiles	2 - 8
<u>Overburden storage</u>	<u>2 - 8</u>
TOTAL	16 - 64

### **Future Exploration Activity**

During the proposed 20 years life of this plan, 60 requests for letters of authorization to conduct sampling and testing activities will be received, all for road projects by the Nevada Department of Transportation. All 60 of these letters of authorization to conduct sampling and testing activities are projected to be for sand and gravel. It is projected that 30 of these requests for letters of authorization will result in approval to mine sand and gravel, 25 material site rights-of-way and five free use permits, and that all 30 sand and gravel pits will be developed.

The sampling and testing activities will equate to a Scenario "V" and will be received for all portions of the resource area. It will be a one year project to drill and evaluate the potential for these mineral materials. It is projected that three new Scenario "V" operations will take place each year. Exploration activities pursuant to letters of authorization to conduct sampling and testing will disturb between 15 and 30 acres [(3 authorizations)(5 acres to 10 acres)] of new disturbance each year. This exploration will be outside of existing sand and gravel mining areas.

### **Future Mining Activity**

Community pit operations will equate to a Scenario "W". Currently, there are 20 Scenario "W" operations within the resource area. It is expected that there will be an average of 30 operations per year over the life of the plan. Generally, the smallest operators are going to be working in community pits. This will total between 7.5 and 60 acres [(30 operators)( $\frac{1}{4}$  acre to 2 acres)] of new disturbance each year. These operations will relocate during the life of the plan as operators move and community pits are opened and closed.

Small operations will equate to a Scenario "X". Currently, there are 25 Scenario "X" operations within the resource area. It is expected that there will be an average of 30 per year over the life of the plan. This will total between 60 and 120 acres [(30 operators)(2 acres to 4 acres)] of new disturbance each year. These operations will relocate during the life of the plan as operators move.

Moderate operations will equate to a Scenario "Y". Currently, there are three Scenario "Y" operations within the resource area. It is expected that there will be an average of five per year over the life of the plan. This will total between 20 and 80 acres [(5 operators)(4 to 16 acres)] of new disturbance each year. These operations will relocate during the life of the plan as operators move.

Large operations will equate to a Scenario "Z". Currently, there are two Scenario "Z" operations within the resource area. It is expected that there will be an average of three per year over the life of the plan. This will total between 48 and 192 acres [(3 operators)(16 to 64 acres)] of new disturbance each year. These operations will relocate during the life of the plan as operators move.



Materials pit authorizations exist in the resource area as follows:

<u>Type</u>	<u>Number</u>	<u>Acreage</u>
Material site right-of-way	181	15,842.14±
Free use permit	22	4,739.04
Material sales contract	1	160.00±
<u>Community pit</u>	<u>24</u>	<u>29,869.27±</u>
<b>TOTAL</b>	<b>228</b>	<b>50,610.45±</b>

Projections follow for operations in the resource area. Scenarios "V" through "Z" are being used in the foreseeable development scenario. These actions will be mainly projected in moderate or high potential zones, although many factors could lead to development in low potential areas. Based upon the proposed 20 year life of the RMP, total projections are as follows:

<u>Scenario</u>	<u>Number</u>	<u>Total Acreage</u>
V	30 x 20 = 600	(600)( $\frac{1}{4}$ to 2) = 150 to 1,200
W	3 x 20 = 60	(60)(5 to 10) = 300 to 600
X	30 x 20 = 600	(600)(2 to 4) = 1,200 to 2,400
Y	5 x 20 = 100	(100)(4 to 16) = 400 to 1,600
<u>Z</u>	<u>3 x 20 = 60</u>	<u>(60)(16 to 64) = 960 to 3,840</u>
<b>TOTAL</b>	<b>71 x 20 = 1,420</b>	<b>3,010 to 9,640</b>

Acreage disturbed would range from a low of 3,010 acres to a high of 9,640 acres. It is important to note that reclamation requirements apply to all of these acres. These estimates do not account for reclamation.

Percentages of the resource area disturbed by mining operations in the minimum and maximum development scenarios are as follows:

Minimum -- 3,010 acres ÷ 5,123,705 acres = 0.059 percent  
Maximum -- 9,640 acres ÷ 5,123,705 acres = 0.188 percent

### **Non-Energy Leasable Minerals**

The exploration and mining scenarios for locatable minerals will be used to explore the potential impacts of this resource.

#### **Future exploration Activity**

During the proposed 20 year life of this plan, one prospecting permit will be received. The prospecting permit will equate to a Scenario "C" and will be received for the White Basin area. It will be a two year project to drill and evaluate the potential for these minerals.

It is projected that this permit will result in lease issuance. This lease is projected to be for sodium and will be developed.

#### **Future Mining Activity**

One mine will be developed and it will equate to Scenario "F". This mine will be located in White Basin.

## Summary of Disturbance

Scenario	Number	Total Acres
C	1	5 - 10
F	1	330 - 3,010
TOTAL	2	335 - 3,020

Acreage disturbed would range from a low of 335 acres to a high of 3,020 acres. It is important to note that reclamation requirements apply to all of these acres. These estimates do not account for reclamation.

Percentages of the resource area disturbed by mining operations in the minimum and maximum development scenarios are as follows:

Minimum --  $335 \text{ acres} \div 5,123,705 \text{ acres} = 0.007 \text{ percent}$   
Maximum --  $3,020 \text{ acres} \div 5,123,705 \text{ acres} = 0.059 \text{ percent}$

Other Actions - Reasonably foreseeable future actions during the 20-year life of the RMP by private individuals and businesses, local and state government, and other Federal agencies would be difficult to forecast with any degree of accuracy. Growth and development in southern Nevada, and the Las Vegas Valley in particular, occurred at a much faster rate during the last 6 years than was anticipated. There are many variables that can, and undoubtedly will, affect growth and development for the next 20 years; these variables include, but are not necessarily limited to, the availability of water, air quality deterioration, the outcome of the desert tortoise habitat conservation plan, the strength of the tourism industry in general and the gaming industry in particular, the cost of housing, and the availability of public lands for disposal. Any one of these variables, or a combination of variables, will certainly affect any estimate of future actions on private lands. During the last 2 years, a number of environmental documents have addressed the issue of growth and development in the Las Vegas area and have attempted to forecast the acreage that would be developed within the foreseeable future; a partial list of these documents and estimates include *Assessment of Biological Information for Listing the Desert Tortoise as an Endangered Species in the Mojave Desert* (1990) - 98,900 by the year 2030; *Clark County Regional Flood Control District EIS* (1991) - 40,466 acres developed in the Las Vegas Valley by the year 2000; *Draft Environmental Assessment for Proposed Issuance of a Permit to Allow Incidental Take of Desert Tortoises in Clark County, Nevada* (1991) - 22,352 acres developed in the permit area within 3 years of permit issuance; *Las Vegas Valley Programmatic Section 7 Consultation* (1991) - 10,000 acres per year.

As can be seen from the above estimates, a variety of figures can be used to forecast growth in the planning area in the next 20 years. Any one of these projections could be accurate or all underestimate or overestimate the growth. In order to project future private land development and simplify the assessment of cumulative impacts, a range of acreage anticipated to be developed will be estimated for both the Las Vegas Valley and for the planning area as a whole. For the Las Vegas Valley, it is anticipated that 35,250 to 72,300 acres of private land will be developed in the 20-year life of the RMP. The total effect of the past, present and reasonably foreseeable future actions are summarized in Table 4-5.



**Table 4.5. Past, present, and reasonably foreseeable future actions.**

<b>Actions</b>	<b>Acres</b>
<b>Past and Present Actions</b>	
<u>BLM Actions</u>	
Fish and Wildlife Habitat Improvement	250
Range Improvements	3,248
Forestry	400
Public Land Disposals	45,021
Lands Actions	6,607
OHV Courses	7,878
Rights-of-Way	246,728
Fluid Minerals	1,075
Locatable Minerals	5,688
Mineral Materials	<u>50,814</u>
<b>Total</b>	<b>367,709</b>
<u>Other Actions</u>	
Las Vegas Valley	150,000
Remainder of Clark County	91,000
Nye County	<u>11,000</u>
<b>Total</b>	<b>252,000</b>
<b>Reasonably Foreseeable Future Actions</b>	
<u>BLM Actions</u>	
Air, Soil, and Water Resource Management	1,000
Riparian Management	225
Fish and Wildlife Habitat Improvements	62 - 3,467
Forestry	400
Range Improvements	311 - 1,101
Wild Horse and Burro Habitat Improvements	175 - 281
Public Land Disposals	564 - 8,600
Lands Actions	21,010 - 70,286
OHV Courses	1,818 - 2,303
OHV Area	9,180
Rights-of-Way	11,050 - 52,860
Fluid Minerals	606 - 780
Locatable Minerals	15,490 - 33,970
Mineral Materials	3,010 - 9,640
Nonenergy Leasables	<u>335 - 3,020</u>
<b>Total</b>	<b>65,236 - 197,113</b>
<u>Other Actions</u>	
Las Vegas Valley	35,250 - 72,300
Remainder of Planning Area	<u>12,750 - 50,700</u>
<b>Total</b>	<b>48,000 - 123,000</b>



## NO ACTION ALTERNATIVE

### Air Resource Management

The discussion of cumulative impacts to air resources will be restricted to the Las Vegas air quality Non-Attainment Area (see Map 3-1). Air resources within the Non-Attainment Area have been degraded by pollutant levels, primarily particulates and carbon monoxide (CO), in excess of ambient air quality standards established by EPA, State of Nevada, and Clark County Health District. Air quality in the remainder of the planning area is acceptable, meaning that pollutant levels are less than or equal to established standards on a continuous basis. Reasonably foreseeable future actions, together with past and present actions, are not expected to result in unacceptable air quality in any areas outside of the existing Non-Attainment Area.

Under the No Action Alternative, 108,107 acres of public lands (including the Santini-Burton Lands) within the Las Vegas Valley Non-Attainment Area were designated as being available for disposal. Approximately 6,000 acres of these lands have been sold during the last 8 years (11 years for the Santini-Burton lands). Budget and workforce considerations, public demand, economic conditions, changing resource values (i.e. the listing of the desert tortoise), and coordination with local governments are all factors in the disposal of public lands. The fact that public lands have been identified for disposal does not guarantee their eventual disposal and development, and this fact must be taken into consideration in the development of reasonably foreseeable future actions and assessment of impacts (15,620 to 41,728 acres anticipated to actually be disposed of during the life of the RMP). Other BLM actions contributing to the cumulative impact to air resources include development and maintenance of rights-of-ways, and mineral exploration and development.

For the purposes of this analysis, it is assumed that from 35,250 to 72,300 acres of private lands within the Las Vegas Valley will be developed during the life of the RMP. Within the Las Vegas Valley, impacts related to BLM-authorized or initiated actions, including public land disposal and subsequent development, construction and maintenance of rights-of-ways, and mineral exploration and development, are expected to total between 25,800 and 89,800 acres during the life of the RMP. This would result in a total of from 61,050 to 162,100 acres of new development within the Las Vegas Valley during the life of the RMP; this represents an increase from 11 percent to 29 percent of the total land base in the Las Vegas Valley. (See Table 4-5).

Estimates for particulate and carbon monoxide emissions due to land development activities are the same as those used in the *Clark County Regional Flood Control District EIS* (Clark County, 1991). Cumulative impacts from both private and public land development activities during the life of the RMP will result in additional particulate matter emissions ranging from 73,260 tons to 194,520 tons (based on 1.2 tons/acre/year). Although the cumulative total of particulate emissions is substantial, emissions would be spread out over a 20-year period and are short-term in duration. Once construction activities are completed, a given site generally does not continue to produce particulate emissions due to paving and landscaping; completion of surface construction should actually reduce background levels of fugitive dust. Future use of these developed lands will not result in any long-term increases in particulate emissions. These figures represent a worst-case scenario in that it assumes 100 percent disturbance for any given action. In practice, the actual acreage disturbed will be less than the acreage authorized (i.e. a 50-foot right-of-way is granted but the actual disturbance is only 30 feet wide).

Additional carbon monoxide (CO) emissions directly related to land development activities would range from 7,326 tons to 19,452 tons during the life of the plan (based on 0.12 tons/acre/year). Although the cumulative total is substantial, these emissions are short-term in duration and cease when construction activities are completed. Growth induced long-term increases in vehicular CO emissions related to the development of the



acreage identified above would range from 45,788 to 121,575 tons per year. These estimates represent a worst-case scenario and assume that no technological advances will be made in reducing CO emissions from internal combustion engines. The assumption is also made that no additional legal or regulatory measures will be taken by Federal, state, or local governments to reduce CO emissions.

### **Water Resources Management**

The discussion of the cumulative impacts to the water resource will be restricted to the Las Vegas Valley where rapid growth and development has resulted in a groundwater overdraft situation. In this area, Nevada's Colorado River water allocation is also being rapidly depleted.

Records indicate that approximately 64,550 acre feet of groundwater was extracted from the principal aquifer, far exceeding the estimated recharge/perennial yield of the Las Vegas Valley (Division of Water Resources 1989). In addition to groundwater withdrawals, the Valley used 243,281 acre feet of Nevada's allocation of Colorado River water. Current projections indicate that consumptive use within the Valley may reach its maximum allocation of the Colorado River water by 1993-1995. For the purposes of this analysis, it is assumed that from 35,250 to 72,300 acres of private lands within the Las Vegas Valley would be developed during the life of the RMP. Within the Las Vegas Valley, actual *Santini-Burton* sales, FLPMA Section 103 sales, R&PP sales and leases, and exchanges are expected to total between 15,116 and 39,748 acres during this same period. These actions would have indirect impacts on the water resource by encouraging growth within the Valley and increasing demand on an already taxed water supply.

To date, approximately 150,000 acres of private land have already been developed within the Las Vegas Valley. Assuming that nearly all of the present water usage (307,831 acre feet) from both groundwater sources and the Colorado River is consumed by these land holdings, the per acre annual water usage in the Valley is equal to approximately 2 acre feet. If all of the proposed acres identified for disposal are indeed transferred and developed and all the private acres developed, approximately 100,732 to 224,096 acre feet of additional water consumption could be anticipated. The adverse implications of the increased water consumption could be moderated by actions taken by the entities within the Valley charged with management of the water situation. The Las Vegas Valley Water District has initiated an exploration and development program designed to increase current water supplies over the next 15 to 20 years. Mandatory conservation measures may be introduced to better utilize currently available water supplies.

### **Desert Tortoise Habitat Management**

Cumulative impacts to desert tortoise habitat will occur over the entire planning area, although the intensity of those impacts will vary considerably from location to location. Within the Las Vegas Valley, cumulative impacts to desert tortoise will be significant, but this assessment is tempered by the fact that it is unlikely that a long-term viable breeding population could be sustained in the Valley given the explosive growth of the last 6 years and projected growth over the life of the RMP. Using the same figures as used for air resources, and further assuming that any undeveloped lands in the Las Vegas Valley are potential habitat, between 61,050 and 162,100 acres of desert tortoise habitat on both private and public lands will be impacted during the life of this RMP. This represents between 18 percent and 47 percent of the remaining desert tortoise habitat (undeveloped land) in the Las Vegas Valley. A loss of habitat of this magnitude would normally be considered significant, but due to the lack of large "islands" of habitat in the Las Vegas Valley that are capable of sustaining minimum viable population levels, this loss of habitat is not expected to jeopardize the continued existence of the tortoise in Nevada.



Existing development in the Las Vegas Valley has affected approximately 150,000 acres of private lands and 67,900 acres of public lands for a total of 217,900 acres or 39 percent of the total land base in the Las Vegas Valley. When these figures are considered with the anticipated development identified above, between 278,950 acres and 380,000 acres of desert tortoise habitat have been impacted or developed in the Las Vegas Valley. Assuming that the entire 560,000 acres in the Las Vegas Valley was historically desert tortoise habitat, a cumulative loss equaling 50 to 68 percent of the available habitat will have occurred by the year 2012. As stated above, the loss of this habitat is not expected to jeopardize the continued existence of the desert tortoise in Nevada.

In the planning area as a whole (including the Las Vegas Valley), an estimated 44,100 to 100,500 acres of private lands and 65,236 to 197,113 acres of public lands are expected to be developed during the life of the RMP. Assuming that the majority of this development will occur primarily in the lowlands rather than the mountains, it is reasonable to assume that 95 percent of this development will involve desert tortoise habitat (desert tortoise habitat comprises approximately 3,010,324 acres or 82 percent of the planning area). Based on those assumptions, between two and 6 percent of the available desert tortoise habitat remaining in the planning area will be lost by the year 2012.

Existing development in the planning area totals approximately 619,700 acres; adding this to the above estimated future development results in a cumulative total of between 729,036 and 917,313 acres. Using the same assumption that 95 percent of this development has occurred, or will occur, in desert tortoise habitat, between 19 and 24 percent of desert tortoise habitat in the planning area will have been lost to man's activities by the year 2012.

Cumulative impacts to desert tortoise habitat can be further broken down by habitat category. It is estimated that 90 percent of the anticipated private land development will occur in Category III habitat, with the remainder occurring in Category II habitat. Twelve percent of the Bureau's actions will impact Category I habitat, 13 percent in Category II habitat, and 75 percent in Category III habitat. The cumulative impacts by category would therefore affect between 7,437 acres and 22,494 acres (2 to 7 percent) of Category I habitat, between 12,247 acres and 33,915 acres (2 to 5 percent) of Category II habitat, and between 84,186 acres and 226,513 acres (four to 11 percent) of Category III habitat.

Based upon projected development in the planning area, an estimated 499 (81-917) tortoises would be taken annually. Over the next twenty years, an estimated 1,621 to 18,343 desert tortoises would be incidentally taken from implementation of the no action alternative. In 1985, the Nevada Board of Wildlife Commissioners estimated a population of 126,522 tortoises in Nevada. Implementation of the No Action Alternative would result in the incidental take of 1.3-14.5 percent of Nevada's tortoise population. A loss of 14.5% of the state population would be considered significant. The majority of the incidental take is expected to occur in the Las Vegas Valley where a viable tortoise population no longer exists. On projects outside of the Valley, much of the take is mostly "harassment take". Here tortoises are relocated a short distance off-site and monitored until danger of harm from the project is past. It is assumed that these animals remain within their home range and continue to contribute to the viability of the population.

Under this alternative, up to 400,000 acres would become tortoise management areas. These areas would be managed primarily for the protection and recovery of the species. Livestock grazing would be eliminated in these tortoise management areas. Most competitive OHV use would be eliminated. Other multiple uses would continue but would be mitigated to the extent possible through Section 7 consultation.



## Cultural Resources Management

Although the numbers of eligible sites affected would vary considerably from geographic zone to zone, cumulative impacts to cultural resources will occur over the entire planning area. A projected number of 7,500 eligible sites on BLM-managed surface could sustain impacts from Federal and other actions under the No Action Alternative. A limitation on numbers and acreage from most actions, especially lands, is present as a result of environmental and demographic variables. For example, most disposal and rights-of-way actions have occurred and are anticipated to continue within or near population centers, such as Las Vegas, Mesquite, and Laughlin. Surface inventory has determined that acreage within or near Las Vegas, Laughlin, and the identified disposal areas for Mesquite can be rated low in sensitivity for the presence of eligible cultural resources. Conversely, geographic zones like the Virgin, McCullough, Arrow Canyon, and Muddy Mountains, which contain relatively high numbers of eligible sites, are composed of rugged terrain and not proposed for extensive land actions. A discussion of cumulative impacts to cultural resources for each alternative will be treated under two scenarios, a minimum versus maximum expectation. Estimations of acreage that could be disturbed by minerals activities include BLM land, acres of other Federal land where BLM has management responsibilities, and split-estate. The estimation of projected numbers of sites that could be impacted reflects an adjustment to include the above-cited additional acreage.

Under the minimum development scenario, surface disturbance of past, present, and foreseeable future actions have and could disturb an estimated 500,00 to 800,000 acres. This total is derived from the addition of estimates of acres from the lands program (70,000 to 130,000 acres), recreation (10,000 to 20,000 acres), and other actions (580,00 to 780,00 acres). Under the maximum use scenario, where most of the resource area is open to livestock grazing, lands, recreation, rights-of-way, and minerals actions, approximately 4,000,000 acres and 7,500 eligible sites could be impacted.

## **ALTERNATIVE A**

### **Air Resource Management**

The cumulative impacts to air resources under Alternative A are expected to be similar to those identified for the No Action Alternative. Approximately 62,000 acres of public lands in the Las Vegas Valley Non-Attainment Area would be designated as being available for disposal. Although this represents a 46 percent reduction from the No Action Alternative, it is not expected to change the RFFA for public land disposals in the Las Vegas Valley (15,620 - 41,728 acres to be disposed of during the life of the RMP). The impacts to air resources from mineral exploration and development and construction and maintenance of rights-of-way would continue at the same pace as identified in the No Action Alternative. Overall, the acreage impacted by BLM actions would be reduced by 5 to 6 percent as compared to the No Action Alternative.

### **Water Resource Management**

The cumulative impacts to water resources under Alternative A are expected to be the same as those analysed for the No Action Alternative.

### **Desert Tortoise Habitat Management**

Cumulative impacts to desert tortoise habitat will occur over the entire planning area, although the intensity of those impacts will vary considerably from location to location. Within the Las Vegas Valley, cumulative impacts to desert tortoise will be significant, but this assessment is tempered by the fact that it is unlikely that a long-term viable breeding population could be sustained in the Valley given the explosive growth of the last 6 years and projected growth over the life of the RMP. Using the same figures as used for air resources, and further assuming that any undeveloped lands in the Las Vegas Valley are potential habitat, between 59,714 and 156,304 acres of desert tortoise habitat on both private and public lands will be impacted during the life of this RMP. This represents between 18 and 46 percent of the remaining desert tortoise habitat (undeveloped land) in the Las Vegas Valley. A loss of habitat of this magnitude would normally be considered significant, but due to the lack of large "islands" of habitat in the Las Vegas Valley that are capable of sustaining minimum viable population levels, this loss of habitat is not expected to jeopardize the continued existence of the tortoise in Nevada.

Existing development in the Las Vegas Valley has affected approximately 150,000 acres of private lands and 67,900 acres of public lands for a total of 217,900 acres or 39 percent of the total land base in the Las Vegas Valley. When these figures are considered with the anticipated development identified above, between 277,614 acres and 374,204 acres of desert tortoise habitat have been impacted or developed in the Las Vegas Valley. Assuming that the entire 560,000 in the Las Vegas Valley was historically desert tortoise habitat, a cumulative loss equaling 50 to 67 percent of the available habitat will have occurred by the year 2012. As stated above, the loss of this habitat is not expected to jeopardize the continued existence of the desert tortoise in Nevada.

The elimination of mineral materials activities on public lands within the Las Vegas Valley means that those activities would, in all probability, be relocated to other public land sites within the planning area. All other activities identified under the RFFAs would be expected to occur if Alternative A were implemented, and therefore, the impacts to desert tortoise habitat within the planning area as a whole are expected to be the same as those identified for the No Action Alternative. As discussed earlier in this chapter, impacts resulting from the changes in livestock grazing, mineral exploration and development, OHV designations, and OHV racing would be reduced, but not eliminated.



In the planning area as a whole (including the Las Vegas Valley), an estimated 44,100 to 100,500 acres of private lands and 65,236 to 197,113 acres of public lands are expected to be developed during the life of the RMP. Assuming that the majority of this development will occur primarily in the valleys rather than the mountains, it is reasonable to assume that 95 percent of this development will involve desert tortoise habitat (desert tortoise habitat comprises approximately 3,010,324 acres or 82 percent of the planning area). Based on those assumptions, between two and six percent of the available desert tortoise habitat remaining in the planning area will be lost by the year 2012.

Existing development in the planning area totals approximately 619,700 acres; adding this to the above estimated future development results in a cumulative total of between 729,036 and 917,313 acres. Using the same assumption that 95 percent of this development has occurred, or will occur, in desert tortoise habitat, between 19 and 24 percent of desert tortoise habitat in the planning area will have been lost to man's activities by the year 2012.

Cumulative impacts to desert tortoise habitat can be further broken down by habitat category. It is estimated that 90 percent of the anticipated private land development will occur in Category III habitat, with the remainder occurring in Category II habitat. Twelve percent of the Bureau's actions will impact Category I habitat, 13 percent in Category II habitat, and 75 percent in Category III habitat. The cumulative impacts by category would therefore affect between 7,437 acres and 22,494 acres (2 to 7 percent) of Category I habitat, between 12,247 acres and 33,915 acres (2 to 5 percent) of Category II habitat, and between 84,186 acres and 226,513 acres (4 to 11 percent) of Category III habitat.

Based upon projected development in the planning area, an estimated 499 (81-917) tortoises would be taken annually. Over the next 20 years, an estimated 1,621 to 18,343 desert tortoises would be incidentally taken from implementation of the No Action Alternative. In 1985, the Nevada Board of Wildlife Commissioners estimated a population of 126,522 tortoises in Nevada. Implementation of alternative A would result in the incidental take of between 1.3 and 14.5 percent of Nevada's tortoise population. A loss of 14.5% would normally be considered significant. The majority of the incidental take is expected to occur in the Las Vegas Valley where a viable tortoise population no longer exists. On projects outside of the Valley, much of the take is mostly "harassment take". Here tortoises are relocated a short distance off-site and monitored until danger of harm from the project is past. These animals remain within their home range and continue to contribute to the viability of the population.

Approximately 970,160 acres of public lands within the planning area would be designated as ACECs and managed primarily for the protection and recovery of the desert tortoise to offset these habitat losses. An additional 48,000 acres of desert tortoise habitat would be included within ACECs that would be designated for reasons other than desert tortoise habitat. Thirty-three percent of the desert tortoise habitat in the planning area would therefore be included within ACECs; 95 percent of that total would be managed primarily for the protection and recovery of the desert tortoise. This can be further broken down into desert tortoise habitat categories. One hundred percent of the Category I habitat in the planning area, 70 percent of the Category II habitat, and 7 percent of the Category III habitat would be designated as ACECs.

### **Cultural Resource Management**

Designation of 1,017,838 acres for ACECs and other withdrawals would aid in the preservation of approximately 2,000 eligible sites in areas presently determined to be sensitive. The following description applies to the minimum use scenario. A minimum of 1,500,000 acres and 3,000 sites could be affected by livestock grazing management. An estimated minimum of 500,000 acres could be impacted by rights-of-ways actions, with an

expected 1,000 eligible sites affected. OHV use areas would be reduced from the levels shown in the No Action Alternative, to 9,180 acres and potential impacts to 250 eligible sites. An estimated minimum of 1,000,000 acres could be disturbed from minerals actions, with affects to 2,000 eligible properties.

Under the maximum use scenario, livestock grazing would affect 1,902,881 acres, potentially impacting 5,000 eligible sites. An estimated minimum of 2,000,000 acres would be impacted by lands and rights-of-way actions, affecting approximately 4,000 eligible properties. A maximum of 3,000,000 acres could be disturbed by minerals actions, with affects to 5,500 sites.

In summary, it is expected that a minimum of 1,500,000 acres with anticipated impacts to 2,000 eligible sites and a maximum of 300,000 acres with impacts to 5,500 sites could occur during the life of the plan under this alternative.



## **ALTERNATIVE B**

### **Air Resource Management**

The cumulative impacts to air resources under Alternative B are expected to be similar to those identified for the No Action Alternative with the following exceptions. Approximately 99,400 acres of public lands in the Las Vegas Valley Non-Attainment Area would be designated as being available for disposal. This represents an eight percent reduction from the No Action Alternative, and it is not expected to change the RFFA for public land disposals in the Las Vegas Valley (15,620 - 41,728 acres to be disposed of during the life of the RMP). The impacts to air resources from mineral exploration and development and rights-of-way construction and maintenance would continue at the same pace as identified in the No Action Alternative.

### **Water Resource Management**

The cumulative impacts to water resources under Alternative B are anticipated to be the same as those identified under the No Action Alternative.

### **Desert Tortoise Habitat Management**

Cumulative impacts to desert tortoise habitat will occur over the entire planning area, although the intensity of those impacts will vary considerably from location to location. Within the Las Vegas Valley, cumulative impacts to desert tortoise will be significant, but this assessment is tempered by the fact that it is unlikely that a long-term viable breeding population could be sustained in the Valley given the explosive growth of the last 6 years and projected growth over the life of the RMP. Using the same figures as used for air resources, and further assuming that any undeveloped lands in the Las Vegas Valley are potential habitat, between 60,382 and 159,202 acres of desert tortoise habitat on both private and public lands will be impacted during the life of this RMP. This represents between 18 percent and 46 percent of the remaining desert tortoise habitat (undeveloped land) in the Las Vegas Valley. A loss of habitat of this magnitude would normally be considered significant, but due to the lack of large "islands" of habitat in the Las Vegas Valley that are capable of sustaining minimum viable population levels, this loss of habitat is not expected to jeopardize the continued existence of the tortoise in Nevada.

Existing development in the Las Vegas Valley has affected approximately 150,000 acres of private lands and 67,900 acres of public lands for a total of 217,900 acres or 39 percent of the total land base in the Las Vegas Valley. When these figures are considered with the anticipated development identified in the above paragraph, between 278,282 acres and 377,102 acres of desert tortoise habitat have been impacted or developed in the Las Vegas Valley. Assuming that the entire 560,000 in the Las Vegas Valley was historically desert tortoise habitat, a cumulative loss equaling 50 to 67 percent of the available habitat will have occurred by the year 2012. As stated above, the loss of this habitat is not expected to jeopardize the continued existence of the desert tortoise in Nevada.

The reduction of mineral materials activities on public lands within the Las Vegas Valley means that those activities would, in all probability, be relocated to other public land sites within the planning area. All other activities identified under the RFFAs would be expected to occur if Alternative A were implemented, and therefore, the impacts to desert tortoise habitat within the planning area as a whole are expected to be the same as those identified for the No Action Alternative. As discussed earlier in this chapter, impacts resulting from the changes in livestock grazing, mineral exploration and development, OHV designations, and OHV racing would be reduced, but not eliminated.



In the planning area as a whole (including the Las Vegas Valley), an estimated 44,100 to 100,500 acres of private lands and 65,236 to 197,113 acres of public lands are expected to be developed during the life of the RMP. Assuming that the majority of this development will occur primarily in the valleys rather than the mountains, it is reasonable to assume that 95 percent of this development will involve desert tortoise habitat (desert tortoise habitat comprises approximately 3,010,324 acres or 82 percent of the planning area). Based on those assumptions, between two and six percent of the available desert tortoise habitat remaining in the planning area will be lost by the year 2012.

Existing development in the planning area totals approximately 619,700 acres; adding this to the above estimated future development results in a cumulative total of between 729,036 and 917,313 acres. Using the same assumption that 95 percent of this development has occurred, or will occur, in desert tortoise habitat, between 19 and 24 percent of desert tortoise habitat in the planning area will have been lost to man's activities by the year 2012.

Cumulative impacts to desert tortoise habitat can be further broken down by habitat category. It is estimated that 90 percent of the anticipated private land development will occur in Category III habitat, with the remainder occurring in Category II habitat. Twelve percent of the Bureau's actions will impact Category I habitat, 13 percent in Category II habitat, and 75 percent in Category III habitat. The cumulative impacts by category would therefore affect between 7,437 acres and 22,494 acres (two to seven percent) of Category I habitat, between 12,247 acres and 33,915 acres (two to five percent) of Category II habitat, and between 84,186 acres and 226,513 acres (four to 11 percent) of Category III habitat.

Based upon projected development in the planning area, an estimated 499 (81-917) tortoises would be taken annually. Over the next 20 years, an estimated 1,621 to 18,343 desert tortoises would be incidentally taken from implementation of the no action alternative. In 1985, the Nevada Board of Wildlife Commissioners estimated a population of 126,522 tortoises in Nevada. Implementation of alternative B would result in the incidental take of between 1.3 and 14.5 percent of Nevada's tortoise population. A loss of 14.5% would normally be considered significant. However, the majority of the incidental take is expected to occur in the Las Vegas Valley where a viable tortoise population no longer exists. On projects outside of the Valley, much of the take is mostly "harassment take". Here tortoises are relocated a short distance off-site and monitored until danger of harm from the project is past. These animals remain within their home range and continue to contribute to the viability of the population.

Approximately 1,346,200 acres of public lands within the planning area would be designated as ACECs and managed primarily for the protection and recovery of the desert tortoise to offset these habitat losses. An additional 48,000 acres of desert tortoise habitat would be included within ACECs that would be designated for reasons other than desert tortoise habitat. Forty-five percent of the desert tortoise habitat in the planning area would therefore be included within ACECs; 97 percent of that total would be managed primarily for the protection and recovery of the desert tortoise. This can be further broken down into desert tortoise habitat categories. One hundred percent of the Category I habitat in the planning area, 100 percent of the Category II habitat, and 15 percent of the Category III habitat would be designated as ACECs. Livestock grazing and competitive OHV events would be eliminated from ACECs, reducing negative impacts on the desert tortoise. Impacts from other multiple uses would continue to be mitigated, to the extent possible, through Section 7 consultation.

### **Cultural Resource Management**

Designation of 1,404,358 acres for ACECs and other withdrawals would aid in the preservation of approximately 3,000 eligible sites in areas presently determined to be sensitive. The following description applies to the minimum use scenario. A minimum of 1,500,000 acres and 3,000 sites could be affected by livestock grazing



management. An estimated minimum of 350,000 acres could be impacted by rights-of-ways actions, with an expected 750 eligible sites affected. OHV use areas would be reduced from the levels shown in the No Action Alternative, to 9,180 acres and potential impacts to 250 eligible sites. An estimated minimum of 1,000,000 acres could be disturbed from minerals actions, with affects to 2,000 eligible properties.

Under the maximum use scenario, livestock grazing would affect 1,902,881 acres, potentially impacting 5,000 eligible sites. An estimated minimum of 1,700,000 acres would be impacted by lands and rights-of-way actions, affecting approximately 3,500 eligible properties. A maximum of 3,000,000 acres could be disturbed by minerals actions, with affects to 6,300 sites.

In summary, it is expected that a minimum of 1,500,000 acres with anticipated impacts to 2,000 eligible sites and a maximum of 300,000 acres with impacts to 6,300 sites could occur during the life of the plan under this alternative.

## **ALTERNATIVE C**

### **Air Resources Management**

The cumulative impacts to air resources under Alternative C are expected to be similar to those identified for the No Action Alternative, with the following exceptions. Approximately 60,000 acres of public lands in the Las Vegas Valley Non-Attainment Area would be designated as being available for disposal. Although this represents a 45 percent reduction from the No Action Alternative, and it is not expected to change the RFFA for public land disposals in the Las Vegas Valley (15,620 - 41,728 acres to be disposed of during the life of the RMP). The impacts to air resources from minerals exploration and development and rights-of-way construction and maintenance would continue at the same pace as identified in the No Action Alternative.

### **Water Resource Management**

The cumulative impacts to the water resource are anticipated to be the same as those identified for the No Action Alternative.

### **Desert Tortoise Habitat Management**

Cumulative impacts to desert tortoise habitat will occur over the entire planning area, although the intensity of those impacts will vary considerably from location to location. Within the Las Vegas Valley, cumulative impacts to desert tortoise will be significant, but this assessment is tempered by the fact that it is unlikely that a long-term viable breeding population could be sustained in the Valley given the explosive growth of the last 6 years and projected growth over the life of the RMP. Using the same figures as used for air resources, and further assuming that any undeveloped lands in the Las Vegas Valley are potential habitat, between 60,382 and 159,202 acres of desert tortoise habitat on both private and public lands will be impacted during the life of this RMP. This represents between 18 percent and 46 percent of the remaining desert tortoise habitat (undeveloped land) in the Las Vegas Valley. A loss of habitat of this magnitude would normally be considered significant, but due to the lack of large "islands" of habitat in the Las Vegas Valley that are capable of sustaining minimum viable population levels, this loss of habitat is not expected to jeopardize the continued existence of the tortoise in Nevada.

Existing development in the Las Vegas Valley has affected approximately 150,000 acres of private lands and 67,900 acres of public lands for a total of 217,900 acres or 39 percent of the total land base in the Las Vegas Valley. When these figures are considered with the anticipated development identified in the above paragraph, between 278,282 acres and 377,102 acres of desert tortoise habitat have been impacted or developed in the Las Vegas Valley. Assuming that the entire 560,000 in the Las Vegas Valley was historically desert tortoise habitat, a cumulative loss equaling 50 to 67 percent of the available habitat will have occurred by the year 2012. As stated above, the loss of this habitat is not expected to jeopardize the continued existence of the desert tortoise in Nevada.

The reduction of mineral materials activities on public lands within the Las Vegas Valley means that those activities would, in all probability, be relocated to other public land sites within the planning area. All other activities identified under the RFFAs would be expected to occur if Alternative A were implemented, and therefore, the impacts to desert tortoise habitat within the planning area as a whole are expected to be the same as those identified for the No Action Alternative. As discussed earlier in this chapter, impacts resulting from the changes in livestock grazing, mineral exploration and development, OHV designations, and OHV racing would be reduced, but not eliminated.



In the planning area as a whole (including the Las Vegas Valley), an estimated 44,100 to 100,500 acres of private lands and 65,236 to 197,113 acres of public lands are expected to be developed during the life of the RMP. Assuming that the majority of this development will occur primarily in the valleys rather than the mountains, it is reasonable to assume that 95 percent of this development will involve desert tortoise habitat (desert tortoise habitat comprises approximately 3,010,324 acres or 82 percent of the planning area). Based on those assumptions, between 2 and 6 percent of the available desert tortoise habitat remaining in the planning area will be lost by the year 2012.

Existing development in the planning area totals approximately 619,700 acres; adding this to the above estimated future development results in a cumulative total of between 729,036 and 917,313 acres. Using the same assumption that 95 percent of this development has occurred, or will occur, in desert tortoise habitat, between 19 and 24 percent of desert tortoise habitat in the planning area will have been lost to man's activities by the year 2012.

Cumulative impacts to desert tortoise habitat can be further broken down by habitat category. It is estimated that 90 percent of the anticipated private land development will occur in Category III habitat, with the remainder occurring in Category II habitat. Due to the increased restrictions on land uses in the desert tortoise ACECs, it is estimated that 5 percent of the Bureau's actions will impact Category I habitat, 10 percent in Category II habitat, and 85 percent in Category III habitat. The cumulative impacts by category would therefore affect between 3,099 acres and 9,372 acres (one to three percent) of Category I habitat, between 10,369 acres and 28,292 acres (2 to 4 percent) of Category II habitat, and between 90,383 acres and 245,258 acres (4 to 12 percent) of Category III habitat.

Based upon projected development in the planning area, an estimated 499 (81-917) tortoises would be taken annually. Over the next 20 years, an estimated 1,621 to 18,343 desert tortoises would be incidentally taken from implementation of the No Action Alternative. In 1985, the Nevada Board of Wildlife Commissioners estimated a population of 126,522 tortoises in Nevada. Implementation of alternative C would result in the incidental take of between 1.3 and 14.5 percent of Nevada's tortoise population. A loss of 14.5% would normally be considered significant. However, the majority of the incidental take is expected to occur in the Las Vegas Valley where a viable tortoise population no longer exists. On projects outside of the Valley, much of the take is mostly "harassment take". Here tortoises are relocated a short distance off-site and monitored until danger of harm from the project is past. These animals remain within their home range and continue to contribute to the viability of the population. Under this alternative, it is anticipated that incidental take would be at the low end of the estimated range of take. More stringent restrictions in ACECs would be expected to result in a lower incidental take than in other alternatives.

Approximately 1,356,680 acres of public lands within the planning area would be designated as ACECs and managed primarily for the protection and recovery of the desert tortoise to offset these habitat losses. An additional 48,000 acres of desert tortoise habitat would be included within ACECs that would be designated for reasons other than desert tortoise habitat. Forty-six percent of the desert tortoise habitat in the planning area would therefore be included within ACECs; 97 percent of that total would be managed primarily for the protection and recovery of the desert tortoise. This can be further broken down into desert tortoise habitat categories. One hundred percent of the Category I habitat in the planning area, 100 percent of the Category II habitat, and 15 percent of the Category III habitat would be designated as ACECs. Livestock grazing, competitive OHV events, and minerals exploration and development would be eliminated from ACECs, resulting in positive impacts on the desert tortoise. Impacts from other multiple uses would continue, but would be mitigated, to the extent possible, through Section 7 consultation.

## Cultural Resource Management

Designation of 1,409,478 acres for ACECs and other withdrawals would aid in the preservation of approximately 3,000 eligible sites in areas presently determined to be sensitive. The following description applies to the minimum use scenario. A minimum of 700,000 acres and 1,500 sites could be affected by livestock grazing management. An estimated minimum of 200,000 acres could be impacted by rights-of-ways actions, with an expected 400 eligible sites affected. OHV use areas would be reduced from the levels shown in the No Action Alternative, to 9,180 acres and potential impacts to 250 eligible sites. An estimated minimum of 1,000,000 acres could be disturbed from minerals actions, with affects to 2,000 eligible properties.

Under the maximum use scenario, livestock grazing would affect 2,000,000 acres, potentially impacting 4,800 eligible sites. An estimated minimum of 500,000 acres would be impacted by lands and rights-of-way actions, affecting approximately 1,000 eligible properties. A maximum of 2,000,000 acres could be disturbed by minerals actions, with affects to 4,000 sites.

In summary, it is expected that a minimum of 1,000,000 acres with anticipated impacts to 2,000 eligible sites and a maximum of 2,000,000 acres with impacts to 4,000 sites could occur during the life of the plan under this alternative.



## **ALTERNATIVE D - PREFERRED ALTERNATIVE**

### **Air Resources**

The cumulative impacts to air resources under Alternative D - Preferred Alternative are expected to be similar to those identified for the No Action Alternative, with the following exceptions. Approximately 99,400 acres of public lands in the Las Vegas Valley Non-Attainment Area would be designated as being available for disposal. This represents an 8 percent reduction from the No Action Alternative, but it is not expected to change the RFFA for public land disposals in the Las Vegas Valley (15,620 - 41,728 acres to be disposed of during the life of the RMP). The impacts to air resources from minerals exploration and development and rights-of-way construction and maintenance would continue at the same pace as identified in the No Action Alternative.

### **Water Resource Management**

The cumulative impacts to the water resource are anticipated to be the same as those analyzed for the No Action Alternative.

### **Desert Tortoise Habitat Management**

The cumulative impacts to desert tortoise habitat under Alternative D - Preferred Alternative are expected to be the same as those identified for Alternative A. Cumulative impacts to desert tortoise habitat will occur over the entire planning area, although the intensity of those impacts will vary considerably from location to location. Within the Las Vegas Valley, cumulative impacts to desert tortoise will be significant, but this assessment is tempered by the fact that it is unlikely that a long-term viable breeding population could be sustained in the Valley given the explosive growth of the last 6 years and projected growth over the life of the RMP. Using the same figures as used for air resources, and further assuming that any undeveloped lands in the Las Vegas Valley are potential habitat, between 59,714 and 156,304 acres of desert tortoise habitat on both private and public lands will be impacted during the life of this RMP. This represents between 18 percent and 46 percent of the remaining desert tortoise habitat (undeveloped land) in the Las Vegas Valley. Normally, a loss of habitat of this magnitude would be considered significant, but due to the lack of large "islands" of habitat in the Las Vegas Valley that are capable of sustaining minimum viable population levels, this loss of habitat is not expected to jeopardize the continued existence of the tortoise in Nevada.

Existing development in the Las Vegas Valley has affected approximately 150,000 acres of private lands and 67,900 acres of public lands for a total of 217,900 acres or 39 percent of the total land base in the Las Vegas Valley. When these figures are considered with the anticipated development identified in the above paragraph, between 277,614 acres and 374,204 acres of desert tortoise habitat have been impacted or developed in the Las Vegas Valley. Assuming that the entire 560,000 acres in the Las Vegas Valley was historically desert tortoise habitat, a cumulative loss equaling 50 to 67 percent of the available habitat will have occurred by the year 2012. As stated above, the loss of this habitat is not expected to jeopardize the continued existence of the desert tortoise in Nevada.

Allowing for mineral materials activities on public lands within the Las Vegas Valley means that those activities, in all probability would not be relocated to other public land sites within the planning area. This would reduce the potential for impacts to wildlife from mineral materials disposal outside the Las Vegas Valley. All other activities identified under the RFFAs would be expected to occur if Alternative A were implemented, and therefore, the impacts to desert tortoise habitat within the planning area as a whole are expected to be similar to those identified for the No Action Alternative. As discussed earlier in this chapter, impacts resulting from the



changes in livestock grazing, mineral exploration and development, OHV designations, and OHV racing would be reduced, but not eliminated. In the planning area as a whole (including the Las Vegas Valley), an estimated 44,100 to 100,500 acres of private lands and 65,236 to 197,113 acres of public lands are expected to be developed during the life of the RMP. Assuming that the majority of this development will occur primarily in the valleys rather than the mountains, it is reasonable to assume that 95 percent of this development will involve desert tortoise habitat (desert tortoise habitat comprises approximately 3,010,324 acres or 82 percent of the planning area). Based on those assumptions, between two and six percent of the available desert tortoise habitat remaining in the planning area will be lost by the year 2012.

Existing development in the planning area totals approximately 619,700 acres; adding this to the above estimated future development results in a cumulative total of between 729,036 and 917,313 acres. Using the same assumption that 95 percent of this development has occurred, or will occur, in desert tortoise habitat, between 19 and 24 percent of desert tortoise habitat in the planning area will have been lost to man's activities by the year 2012.

Cumulative impacts to desert tortoise habitat can be further broken down by habitat category. It is estimated that 90 percent of the anticipated private land development will occur in Category III habitat, with the remainder occurring in Category II habitat. Twelve percent of the Bureau's actions will impact Category I habitat, 13 percent in Category II habitat, and 75 percent in Category III habitat. The cumulative impacts by category would therefore affect between 7,437 acres and 22,494 acres (two to seven percent) of Category I habitat, between 12,247 acres and 33,915 acres (two to five percent) of Category II habitat, and between 84,186 acres and 226,513 acres (four to 11 percent) of Category III habitat.

Based upon projected development in the planning area, an estimated 499 (81-917) tortoises would be taken annually. Over the next twenty years, an estimated 1,621 to 18,343 desert tortoises would be incidentally taken from implementation of the no action alternative. In 1985, the Nevada Board of Wildlife Commissioners estimated a population of 126,522 tortoises in Nevada. Implementation of the preferred alternative would result in the incidental take of 1.3 to 14.5 percent of Nevada's tortoise population. A loss of 14.5 percent would normally be considered significant. The majority of the incidental take is expected to occur in the Las Vegas Valley where a viable tortoise population no longer exists. On projects outside of the Valley, much of the take is mostly "harassment take". Here tortoises are relocated a short distance off-site and monitored until danger of harm from the project is past. These animals remain within their home range and continue to contribute to the viability of the population.

Approximately 970,160 acres of public lands within the planning area would be designated as ACECs and managed primarily for the protection and recovery of the desert tortoise to offset these habitat losses. An additional 48,000 acres of desert tortoise habitat would be included within ACECs that would be designated for reasons other than desert tortoise habitat. Thirty-three percent of the desert tortoise habitat in the planning area would therefore be included within ACECs; 95 percent of that total would be managed primarily for the protection and recovery of the desert tortoise. This can be further broken down into desert tortoise habitat categories. One hundred percent of the Category I habitat in the planning area, 70 percent of the Category II habitat, and seven percent of the Category III habitat would be designated as ACECs. Livestock grazing and competitive OHV events would be eliminated in ACECs, reducing negative impacts to the desert tortoise. Impacts from other multiple uses would continue, but would be mitigated to the extent possible through Section 7 consultation.



## **Cultural Resource Management**

Designation of 1,017,838 acres for ACECs and other withdrawals would aid in the preservation of approximately 3,000 eligible sites in areas presently determined to be sensitive. The following description applies to the minimum use scenario. A minimum of 1,500,000 acres and 3,000 sites could be affected by livestock grazing management. An estimated minimum of 1,000,000 acres could be impacted by rights-of-ways actions, with an expected 2,000 eligible sites affected. OHV use areas would be reduced from the levels shown in the No Action Alternative, to 9,180 acres and potential impacts to 250 eligible sites. An estimated minimum of 2,000,000 acres could be disturbed from minerals actions, with affects to 4,000 eligible properties.

Under the maximum use scenario, livestock grazing would affect 1,902,881 acres, potentially impacting 4,800 eligible sites. An estimated minimum of 1,750,000 acres would be impacted by lands and rights-of-way actions, affecting approximately 3,500 eligible properties. A maximum of 3,500,000 acres could be disturbed by minerals actions, with affects to 7,500 sites.

In summary, it is expected that a minimum of 2,000,000 acres with anticipated impacts to 4,000 eligible sites and a maximum of 3,500,000 acres with impacts to 7,500 sites could occur during the life of the plan under this alternative.

## **CHAPTER 5**

### **CONSULTATION AND COORDINATION**







## CHAPTER 5

### CONSULTATION AND COORDINATION

#### INTRODUCTION

This chapter summarizes the preparation, public participation, consultation, and coordination activities conducted for the Draft Stateline RMP/EIS. In the course of preparing this document, formal and informal efforts have been made to involve the public, a variety of special interest groups and organizations, other Federal agencies, and state and local governments in the planning process. Several steps of the planning process require that the public be provided the opportunity to participate; a number of other actions were taken to encourage further public participation.

Prior to the actual writing of the Draft RMP/EIS, an extensive data collection effort was initiated. This process included data assembly, public participation, interagency coordination and consultation, and preparation of the Analysis of the Management Situation. Consultation and coordination included requests to the USFWS for technical assistance in dealing with candidate species in the planning area, individual scoping meetings for local governments, and one-on-one meetings with individual members of the general public and representatives of special interest groups organizations. Documentation of these consultation and coordination efforts and a complete mailing list of those contacted during the scoping process are on file in the Stateline Resource Area Office.

#### LIST OF PREPARERS

The Stateline RMP/EIS was prepared by specialists from the Stateline Resource Area and the Las Vegas District Office. Planning, resource, and cartographic staff from the Nevada State Office provided technical reviews and support. Tables 5-1, 5-2, and 5-3 list the individuals and their responsibilities in the preparation of this document.

#### PUBLIC SCOPING

The public participation process began in March, 1990 with the publication of a Notice of Intent to prepare the Stateline RMP/EIS in the *Federal Register* (Volume 55, No. 60, Wednesday, March 28, 1990, page 11445).

On March 29, 1990, an initial mailing of 1,388 scoping reports was sent to individuals, State and Federal agencies, local governments, organizations, and private industry. This number was subsequently increased to over 1,500 in response to requests received throughout the scoping period. Copies of the scoping report were available at all public meetings. The scoping report summarized the tentative planning issues, the preliminary criteria and alternatives, and the resource concerns identified by BLM managers and resource specialists. It also described the procedures for nominating ACECs. The public was asked to evaluate the scoping report, to identify additional issues, criteria, or concerns for analysis in the Draft RMP/EIS, and to nominate ACECs. The locations, dates, and times of the nine public scoping meetings were also included in the scoping report.

Copies of the scoping report and a news release announcing the locations, dates, and times of the scoping meetings were sent to 218 individuals, organizations, newspapers, and radio and television stations throughout Nevada and some locations in California.



The public scoping meetings were held for the purpose of soliciting comments on the tentative issues, the preliminary planning criteria, and alternatives. Nominations for ACECs were accepted during the scoping meetings. Table 5-4 shows the date, location, and attendance for each of the nine scoping meetings.

**Table 5-1. List of preparers.**

Name	Assignment	Education and Qualifications	Years of Experience
Roger Alexander	Team Leader	B.S.-Wildlife Science	14
Jerry Wickstrom	Team Leader (after 7/91)	B.S.-Wildlife Science	30
Jeanie Cole	Wildlife Habitat Mgmt. Aquatic Habitat Mgmt. ACECs	B.S.-Wildlife Ecology	5
Tom Cook	Geology, Minerals	B.S.-Geography B.S.-Geology B.S.B.A.-Accounting M.S.-Accountancy M.B.A.- Business Administration	12
Sharon DiPinto	Lands, Rights-of-Way, Acquisitions		13
Terry Driver	Livestock Grazing, Wild Horse & Burro Mgmt., Vegetation, Forestry	B.S.-Animal Science M.S.-Range Science	27
Dawna Ferris	Writer/Editor	M.A.-French	5
Joel Mur	Red Rock Canyon NCA	M.A.-Anthropology B.A.-Liberal Arts B.S.-Natural Resources/ Recreation Lands Mgmt.	14
Keith Myhrer	Cultural Resources, Paleontological Resources	M.A.-Anthropology	5
Paul Myers	Socio-Economics	B.S.-Economics	13
Gary Pavusko	Fire Management	A.A.S.-Fire Science Mgmt. A.A.S.-Fire Science Tech. B.S.-Natural Resource Conservation	12
Donn Siebert	Air Resources, Soils, Water Resources, Riparian Mgmt.	B.S.-Watershed Mgmt. B.S.-Forest Mgmt.	12
Tim Smith	Recreation, Wilderness, VRM, Wild & Scenic Rivers, Natural Areas	B.S.-Outdoor Recreation Mgmt.	13
Jim Caplinger	Cartography	Drafting/Cartography	8
Diane Colcord	Special Graphics	B.A.-Art Education	23
Jim MacDonald	Cartography	Drafting/Cartography	4



**Table 5-2. List of reviewers and technical support and guidance.**

<b>Name</b>	<b>Title</b>	<b>Office</b>
Bob Stager	Range Conservationist/ Wild Horse & Burro Specialist	Las Vegas District
Bob Taylor	Outdoor Recreation Specialist	Las Vegas District
Jerry Wickstrom	Planning and Environmental Specialist	Las Vegas District
Sid Stone	Wildlife Biologist	Las Vegas District
Stan Rolf	Archaeologist	Las Vegas District
Mark Chatterton	Geologist	Las Vegas District
Ken Stowers	Realty Specialist	Nevada State Office
Brad Hines	Range Conservationist	Nevada State Office
Curtis Warrick	Wildlife Biologist	Nevada State Office
David Griggs	Range Conservationist	Nevada State Office
David Wolf	Wilderness Specialist	Nevada State Office
Mary Clark	Land Law Examiner	Nevada State Office
Neil Talbot	Regional Planner	Nevada State Office
Pat Barker	Archaeologist	Nevada State Office
Stephen Smith	Outdoor Recreation Specialist	Nevada State Office
Vienna Wolder	Realty Specialist	Nevada State Office
James McLaughlin	Soil/Water/Air	Nevada State Office
Osborne Casey	Fisheries/Forestry	Nevada State Office
Neal Brecheisen	Geologist	Nevada State Office
Roger Haskins	Geologist	Nevada State Office



**Table 5-3. Management support and guidance.**

<b>Name</b>	<b>Title</b>	<b>Office</b>
Billy Templeton	State Director	Nevada State Office
Dan Rathbun	Deputy State Director- Lands and Resources	Nevada State Office
Tom Leshendok	Deputy State Director- Minerals	Nevada State Office
Everett Hayes	Branch Chief-Lands and Recreation	Nevada State Office
Marla Bohl	Branch Chief-Lands & Minerals Operations	Nevada State Office
Steve Rasmussen	Branch Chief-Mapping and Photogrammetry	Nevada State Office
Jack Seley	Branch Chief-Planning and Environmental Coordination	Nevada State Office
Terry Woosley	Branch Chief-Resources	Nevada State Office
Alan Dunton	Branch Chief-Fire and Aviation Management	Nevada State Office
Ben Collins	District Manager	Las Vegas District Office
Pete Christensen	Asst. District Mgr.-Resources	Las Vegas District
Runore Wycoff	Area Manager	Stateline Resource Area



**Table 5-4. Scoping meetings**

<u>DATE</u>	<u>LOCATION</u>	<u>ATTENDANCE</u>
April 17, 1990	Las Vegas, Nevada	45 attendees
April 18, 1990	Las Vegas, Nevada	18 attendees
April 19, 1990	Las Vegas, Nevada	27 attendees
April 24, 1990	Mesquite, Nevada	28 attendees
April 25, 1990	Laughlin, Nevada	4 attendees
April 26, 1990	Searchlight, Nevada	26 attendees
April 30, 1990	Beatty, Nevada	0 attendees
May 1, 1990	Pahrump, Nevada	13 attendees
May 3, 1990	Las Vegas, Nevada	37 attendees
<b>TOTAL</b>		<b>198 attendees</b>

(Source: BLM, Las Vegas District Office files, 1990)

### Public Meetings

The first meeting in Las Vegas was attended by 45 people, representing a broad spectrum of public land users. One individual read a prepared statement, nominating 19 ACECs for evaluation in the RMP/EIS, and speaking in favor of protection for wildlife and wilderness. This speaker was opposed to public land disposals, the proposed Yucca Mountain Project, and the Las Vegas Valley Water District's (Water District) filing for appropriative water rights under state law. Other individuals commented on the listing of the desert tortoise and the potential effects of that listing on other uses of the public lands. They also questioned whether or not other species of wildlife would be addressed in the RMP/EIS, expressed concern over public land sales and exchanges (particularly in the northwest part of the Las Vegas Valley), and supported the need to manage the public lands for all uses. Some expressed support for the mining industry in Nevada, for continued OHV use on the public lands, for protection of cultural resources, and for the construction of flood control structures on public lands. One individual questioned how public land disposals in the Las Vegas valley were affecting air and water quality and also suggested that BLM was not honoring the Ruby Valley Treaty. Another was also concerned with the proposed Yucca Mountain Project and the Water District's water rights applications.

A cross-section of public land users was represented at the second public meeting, held in Las Vegas and attended by 18 people. Impacts to air and water quality and water use were concerns expressed by several commentors. One speaker queried why BLM was not using GIS (Geographical Information System) to aid in the preparation of the RMP/EIS. A representative of the OHV community expressing his desire to continue OHV racing throughout the planning area; he requested that races not be confined to OHV "sacrifice areas" (i.e. the California Desert District's designated "Open" areas). Questions were raised about the wilderness designation process and the impacts to OHV racing from the listing of the desert tortoise.

One individual made a lengthy statement on managing public lands for uses other than providing for the desert tortoise. He advocated "legitimizing" recreational use on the public lands, so as prevent miners, livestock operators, and "recreationists" from being "smothered" by the environmentalists. This speaker



recommended that OHV racers should be authorized to race anywhere and not confined to certain "Open" areas. Staffing shortages in the Stateline Resource Area office were blamed for delays in processing recreation permits. He ended his comment with a personal attack on local BLM employees who, he alleged, were "in bed" with developers in the Las Vegas area.

The third meeting, held in Las Vegas, was attended by 27 people. One individual asked for clarification on the distinction between "threatened" and "endangered" and how the difference affected BLM management of the public lands. Other speakers asked about "Resource Development" scenarios, water availability, and water quality. A commentator expressed his concerns about each of the tentative issues, including the need to provide for orderly development of the Las Vegas Valley. This individual suggested that Sunrise Mountain be considered for ACEC status, questioned the placement of utility corridors in highly visible areas, and expressed the need to provide for continued mineral development and OHV use. A question was asked about the accelerated schedule for the preparation of the RMP/EIS and the "clout" that the plan would have. The placement of powerlines in utility corridors and their effects on humans and wildlife concerned several speakers; a utility company representative also provided his views on such corridors. One individual questioned whether or not mining claims in disposal areas were still "valid".

Twenty-eight people attended the fourth meeting, which was held in Mesquite; the mineral and livestock industries dominated the special interest groups present. One individual asked for a definition of an "RMP participant" and "affected interest" and wondered who could comment and protest. The representative of a mining company with patented and unpatented claims in the Valley of Fire area was concerned about the wilderness inventory scheduled to be conducted over 12,000 acres there. This speaker also had questions about the listing of the desert tortoise. Two individuals wondered why the Clark County MFP needed to be changed since they felt that only a small portion of the planning area was really affected by rapid growth and the listing of the desert tortoise. A local utility company representative questioned whether designation of ROW corridors would speed up the application/approval process. Another individual wanted information on the ACEC nomination and designation process and potential effects of those designations on other uses. Concerns were expressed about OHV designations and possible access restrictions that could affect hunters and recreationists. Another individual questioned why other Federal agencies wanted to retain the ephemeral range classification and wanted clarification on BLM's position on that issue. He also sought information about the ACEC nomination process. Questions and comments came from one individual on the listing of the desert tortoise and the potential impacts to public land users.

Laughlin was the site of the fifth scoping meeting, with four people in attendance at this meeting. Economic growth and development were the principal focus of public concern. One individual raised questions about flood control, water availability, public land disposal, and the availability of sand and gravel to support the continued economic growth and development of the Laughlin area. Another commentator asked that BLM cooperate with Nevada and California Departments of Transportation to realign the Needles Highway. A question was asked about mining within the boundaries of the Lake Mead Recreation Area.

Twenty-six people attended the sixth scoping meeting which was held in Searchlight; a cross-section of public land users were represented. One individual (a member of the Searchlight Town Board) discussed that community's need to obtain Federal land in order to develop a new sanitary landfill. Another member of the Town Board was concerned about the listing of the desert tortoise and the possible effects of that listing on Searchlight's ability to obtain a ROW to drill a water well and construct a pipeline to provide water for the town. One individual asked about the distinction between "threatened" and "endangered" and whether that distinction made a difference in BLM management. Two grazing permittees, dissatisfied with the present ephemeral range classification, requested that their allotments be reclassified to ephemeral-perennial.

The seventh meeting was held in Beatty; no one was in attendance at this meeting.



Pahrump was the site of the eighth scoping meeting, with 13 people, representing a cross-section of public land users, at this meeting. One individual asked why the Bureau was concerned with management in the Pahrump area. A local utility company representative requested information on utility corridors. Another participant asked how Pahrump could obtain Federal lands for a sanitary landfill and how the price of public lands was determined. One individual asked whether a road would be constructed from the Sun City/Summerlin development over the Spring Mountains to Pahrump. A member of the Las Vegas District Advisory Council commented on a variety of topics: the increase in wild burros around Pahrump; the price of sand and gravel; the need to continue managing the public lands for multiple uses; and the need for flood control. This individual sought information on the location and density of desert tortoises, citing the need for USFWS designated "critical habitat" and for BLM to set aside "tortoise management areas," thus relaxing restrictions on other public lands. He also requested that the ephemeral range classification be changed to ephemeral-perennial. This commentator also suggested that a spring near Pahrump may qualify as an ACEC. Another individual supported continued multiple use of the public lands and wondered how an ACEC designation would affect mining. One speaker questioned the Bureau's responsibilities in the Water District's water rights applications. Another asked how the public was notified of the scoping meetings and suggested some ways to improve the notification process.

Thirty-seven people, representing many types of public land users, attended the last public scoping meeting, held in Las Vegas. A member of various mining groups requested clarification of the "RMP participant" or "affected interest" status of an individual who is also a member of an organization. The Nevada Department of Minerals' representative read a prepared statement and asked whether or not an ACEC could be nominated based on mineral values. Two representatives from different local governments submitted written comments; one also gave verbal comments on the proposed Yucca Mountain Project. One individual asked about a recent lawsuit concerning land classifications and withdrawals. A representative of the Nevada Wildlife Federation had questions about the Las Vegas Water District's water right applications and BLM's role in the process. He also asked how long ACEC nominations would be accepted. A representative from the Fraternity of the Desert Bighorn read a prepared statement which opposed any changes in the ephemeral range classification. That group expressed concerns about wild horses and burros and the need for maximum access into wilderness areas for hunting and habitat improvement. This speaker also cited the need to conduct habitat improvement/enhancement for all game species and to continue population augmentation in order to provide more hunting opportunities. A final concern was expressed about the impacts of OHV designations on hunting access. A commentator, representing the local chapter of a national preservation organization, expressed dissatisfaction with the current public land disposal boundary in the Las Vegas Valley. This speaker asked whether or not the Bureau coordinated with other state and local governments and if public land disposal contributed to air and water quality impacts. Other topics discussed by this individual included support for the Nevada Wildlife Federation's position on the Water District's water rights applications and for the development of a plan to increase tortoise populations; a question was raised about the potential ACECs that were nominated during the Clark MFP process. A mineral company representative stated that his company supported efforts to protect the desert tortoise.

Comments and concerns obtained from the public scoping meetings indicated that no new issues had been identified and that changes were not needed in the planning criteria. The Supplemental Program Guidance or SPG (BLM Manual 1620) requires an analysis of all resources and programs in the RMP process. The Bureau will, therefore, address those public concerns that are within the scope of the planning process but that were not identified as issues. These concerns include a discussion of all wildlife species and habitat; access for recreation purposes; continued impacts to air and water quality from Bureau authorized or initiated actions; and continued multiple use of the public lands. Chapter 2, *Alternatives*, and Chapter 4, *Environmental Consequences*, contain a detailed discussion and analysis of the all issues and concerns within the scope of the Stateline RMP/EIS.

Several individuals and organizations expressed concerns over the Water District's water rights applications and the proposed Yucca Mountain Project. Both of these topics are beyond the scope of the Bureau's



planning process and will, therefore, not be addressed in the Stateline RMP/EIS. The granting of appropriate water rights is a legal right, retained by the State of Nevada; it is not an issue or concern that can be addressed by the Bureau's planning system. The right to occupy the public lands for the purpose of constructing, operating, and maintaining the necessary facilities to extract and transport the water is, however, authorized by the Bureau. This authorization it is not necessarily one that can be thoroughly addressed in a single land use plan. The area directly affected by the water rights applications include public lands in three BLM districts and five resource areas; each of these resource areas has its own approved land use plan and the Stateline RMP/EIS cannot make decisions for those areas. The Stateline RMP/EIS will address need to designate utility corridors for the placement of facilities such as water, gas, oil, and slurry pipelines, railroad and other transportation facilities, fiber optic cables, and powerlines. This plan will also designate right-of-way avoidance areas and exclusion areas which will affect the ability of all public land users to obtain rights-of-way for any purposes. When, and if, the Water District files a right-of-way application(s) for water extraction/transportation facilities, the Bureau will analyze the impacts of the proposed rights-of-way in a project-wide environmental document; any authorizations resulting from the application(s) and environmental analysis will be in compliance with the applicable land use plan(s).

The proposed Yucca Mountain Project is, at this time, a *proposed* project. A right-of-way has been granted to the Department of Energy (DOE) to conduct site characterization studies; DOE has filed an application to withdraw approximately 4,500 acres of public lands from operation of the 1872 Mining Law. Comprehensive environmental impact analyses have been prepared for the site selection process and for the site characterization study; these documents can be reviewed at the BLM offices in Reno and Las Vegas and at DOE offices in Las Vegas. The Bureau's planning system does not provide the authority to prevent another Federal agency from filing a petition for withdrawal nor does it allow the Bureau to exempt any public lands from withdrawal prior to the submission of an application. As in the case of the Water District filings, the Stateline RMP/EIS will address the need to designate utility corridors for the placement of facilities such as water, gas, oil, and slurry pipelines, railroad and other transportation facilities, fiber optic cables, and powerlines. The plan will also designate right-of-way avoidance areas and exclusion areas which will affect the ability of all public land users to obtain rights-of-way for any purposes.

### Written Comments

The scoping period for the Stateline RMP/EIS generated 212 comment forms and letters. A summary and discussion of the written comments follows. All correspondence relating to the Stateline RMP/EIS is available for review at the Stateline Resource Area Office.

Written comments were divided into 25 general categories. The number of comments received in each general category is shown in Table 5-5; this figure exceeds the total number of letters received because many letters contained comments on more than one issue or concern. *Unless otherwise noted, the questions and concerns summarized below are discussed at length in Chapters 2, 3, and 4 of the Draft RMP.*

The listing of the desert tortoise as a threatened species elicited the greatest number of public comments. Many commentators supported the designation "tortoise management areas/ACECs" as mitigation for the development of private lands in Clark County. These ACECs would be the proposed action for a habitat conservation plan being developed for Clark County. Others expressed the opinion that the listing of the desert tortoise was not warranted and that compliance with the Endangered Species Act (ESA) was not necessary. A significant percentage of comments expressed the concern that the listing would result in restrictions on current uses of the public lands.

Wilderness-related topics generated 51 comments, despite the fact that wilderness was not identified as an issue. Several misconceptions about the FLPMA mandate to complete wilderness inventory for all public lands were voiced. Two areas identified for wilderness inventory elicited specific responses and many other



general comments on wilderness were received. The recent wilderness inventory of approximately 12,000 acres in the Valley of Fire area received considerable attention, with comments divided equally "for" and "against". In order to comply with FLPMA, this area must be inventoried for wilderness values. The lands acquired in the Summa exchange did not receive any specific attention. General wilderness comments generally reflected one of two opinions: there was either "too much" or "not enough" wilderness recommended. The results of the wilderness inventory process for the above-mentioned lands are included in Chapters 2 and 4.

The third most frequently cited topic was mining, with comments about evenly split between "pro" mining and "anti"-mining. Other writers supported the withdrawal of public lands from operation of the general mining laws.

**Table 5-5. Number of comments by category.**

<u>Comment Category</u>	<u>Number of Comments</u>
Desert Tortoise/Preserves	78
Wilderness	51
General mineral related	50
Land disposal	47
Rangeland classification	44
Non-competitive OHV use	44
ACECs (nominations/general)	40
Utility/transportation corridors	38
No comment/place on mailing list	34
General grazing	29
Sand and gravel	24
Competitive OHV use	24
Other wildlife species	23
Legal, regulatory, policy	23
Non-motorized recreation	14
Air/water quality	12
Water use/conservation	10
Retention of multiple-use	10
Flood control	9
Wild horses and burros	9
Compatibility with other Federal, State, and local land use plans	8
Cultural resources	6
Withdrawals/transfers	5
Riparian	4
No change	3
Red Rocks	<u>2</u>
<b>TOTAL</b>	<b>641</b>

(Source: BLM, Las Vegas District Office files, 1990.)



Concerns over public land disposals accounted for 47 comments. The majority addressed the current discretionary land disposal boundary in the Las Vegas Valley. Uncontrolled growth, impacts to air and water quality, and water use were identified as major concerns. The remaining comments expressed the need for the Bureau to continue to provide public lands for the growth and development of southern Nevada's small communities.

Grazing permittees who desired a change to ephemeral-perennial classification contributed the majority of comments about rangeland management. A number of comments were received protesting any change in the current ephemeral classification. The majority of comments on non-competitive OHV use addressed limitations on these types of recreational activities. Several respondents sought continued access for mineral exploration and livestock grazing purposes.

ACECs accounted for 40 comments, with over half of the comments expressing opinions either "for" or "against" these special designations. Eighteen letters were received which either nominated ACECs or supported another individual's/organization's nominations. Each ACEC nomination was evaluated in accordance with BLM Manual 1613 for "relevance" and "importance"; the evaluation summaries can be found in Appendix E. Potential ACECs which passed the relevance and importance test are discussed and analyzed in Chapters 2 and 4 of the Draft RMP/EIS.

Concern with the possible location and designation of utility/transportation corridors generated the eighth highest number of comments. Thirty-four respondents did not make comments but asked to be placed on the mailing list and expressed a desire to continue to participate in the Stateline RMP/EIS process.

Livestock grazing elicited 29 general comments. Approximately half of the comments stated that livestock grazing needed to be restricted or eliminated entirely, while the remainder were concerned that the public land permittees were being pushed out of the way to accommodate other uses and users.

The 24 comments on sand and gravel operations addressed the need to provide sand and gravel for continued growth of the Las Vegas Valley and smaller communities. These responses also acknowledged that such operations had impacts on residential areas, once growth and development had occurred.

Competitive OHV use is a highly visible use of the public lands in southern Nevada. Comments were evenly divided between those who wished to see their recreational activity continued and those who felt that the impacts to the environment from OHV events should be more closely controlled.

Concern for wildlife species other than the desert tortoise were expressed in 23 comments. The Supplemental Program Guidance requires the Bureau to prepare a comprehensive land use plan; all major game and non-game species and their habitat are discussed in the Draft RMP/EIS.

Twenty-three comments addressed legal, regulatory, or policy decisions, none of which can be changed through the planning process. These concerns cannot be analyzed in the Stateline RMP/EIS.

Non-motorized recreation (hiking, photography, sightseeing, back-country hunting, etc.) concerned 14 respondents, who suggested that access restrictions were necessary to preserve those values upon which non-motorized recreation is dependent. Others wanted some areas set aside specifically for non-motorized recreation.

Twelve comments dealt with deteriorating air and water quality. Concern was expressed over public land disposal in the Las Vegas Valley, competitive and non-competitive OHV use, and livestock grazing; these activities were viewed as having adverse impacts on both air and water quality.



Water use/conservation concerns, as expressed by 10 commentors, were directly related to the Water District's applications for state appropriative water rights. Individuals also noted that by selling public lands in the Las Vegas Valley, the Bureau was encouraging growth and increased water demand.

The desire to retain multiple use of the public lands was expressed in 10 comments, generally from traditional users of the public lands (livestock permittees, the mining industry, and the OHV community). These writers were concerned that, with the changing demographics and priorities of the nation, their lifestyles and in some cases, livelihoods, are threatened.

The need to provide public lands for flood control structures was highlighted in nine comments. Commentors advocated land use planning decisions that would not preclude the future placement of these structures on public lands.

Wild horses and burros management concerned nine commentors. They also addressed management of the herds in Lake Mead National Recreation area, competition between equids and wildlife, and public safety (road hazards).

Eight comments were received addressing compatibility with other Federal, state, and local land use plans. Compatibility, to the extent possible, is mandated by FLPMA and is one of the reasons for the scoping process. An attempt was made to reach every Federal, state, and governmental entity that could be directly or indirectly affected by the Stateline RMP/EIS; the list of agencies, organizations, and individuals at the end of this chapter identifies those entities. Meetings were held with representatives from local governments in order to solicit comments and concerns. The section entitled "Coordination" in this chapter provides more detailed information on compatibility with other land use plans.

The protection of cultural resources accounted for a number of comments. These responses mentioned compliance with the cultural resource protection laws, identified uses that were adversely impacting cultural resources, or identified specific concerns for sites important to Native Americans.

Five comments focused on withdrawals by other Federal agencies and transfers to state government. The proposed Yucca Mountain project, proposed withdrawals in the Ash Meadows area, military withdrawals (including National Guard), and the pending application for expansion of Valley of Fire State Park were specifically cited. The withdrawal of public lands by other Federal agencies is at the discretion of either the Secretary of the Interior or Congress, depending on the acreage involved and the ultimate use of the land. This issue is, therefore, beyond the scope of the Bureau's planning system and cannot be addressed in the Stateline RMP/EIS. Transfers to state agencies are essentially disposal actions conducted under the R&PP Act or other legal authority; appropriate public lands in the planning area will be classified for disposal in the Stateline RMP/EIS.

Riparian management elicited several comments. Writers noted the need to protect riparian areas from livestock in order to preserve their values as wildlife habitat and watershed.

Three letters suggested that no change to existing management was required. In Chapter 2, the "No Action" alternative discusses and analyzes the current situation.

Management of the Red Rocks Canyon Recreation Lands was the topic of two letters. As stated in Chapter 1, the RMP process is the second of three tiers in the Bureau's planning system; decisions arising from an RMP provide broad land use allocations and management direction. Site-specific decisions, as mentioned by these commentors, are generally relegated to the activity plan level (the third or lowest tier of the planning system).



## CONSULTATION

As mandated by Section 7 of the *Endangered Species Act*, consultation between the BLM and the USFWS is required prior to the authorization or implementation of any project which may affect any Federally threatened or endangered plant or animal species (or their habitat). Technical assistance on candidate species was requested during the scoping period and informal consultation on listed species is on-going throughout the planning process. The Draft Stateline RMP/EIS has been submitted to the USFWS as formal consultation for all listed species.

Concurrent with the development of the Stateline RMP, several other major planning efforts are in progress regarding the desert tortoise. These activities include Clark County's short- and long-term habitat conservation plans (HCPs) and the USFWS *Desert Tortoise Recovery Plan*. To date, only the short-term HCP has been completed. To insure that the Stateline DRMP/DEIS adequately considers all possible alternatives that may be presented in the long-term HCP and recovery plan, various alternatives have been considered, including an alternative which calls for maximum protection of desert tortoise habitat. The BLM has agreed to carry forward, as an alternative under consideration in the DRPM, certain management actions identified in Clark County's short- and long-term HCPs.

The BLM also has a responsibility to implement actions to further the purpose of the ESA, including those actions necessary for the recovery of the desert tortoise. Therefore, actions identified in the USFWS *Desert Tortoise Recovery Plan* must at least be addressed in the DRMP. Alternative C identifies a level of management decisions and analysis adequate to encompass any significant recommendations that may come from the HCPs and the recovery plan. The final decision may include any alternative, or any portion of various alternatives, after full public review and comment.

The Nevada Division of Wildlife (NDOW) has been contacted concerning State listed threatened and endangered wildlife and plant species. This resource plan is consistent with legislation protecting State listed species. Coordination and consultation with the State will be continued throughout the planning process and during implementation.

The BLM cultural resource management program operates in accordance with 36 Code of Federal Regulations (CFR), Part 800, which outlines specific procedures for consultation between the BLM and the State Historic Preservation Officer (SHPO). A Memorandum of Agreement (MOA)(NSO-196) between the SHPO, the Advisory Council on Historic Preservation, and the BLM Nevada State Office became effective on May 28, 1985; this agreement was updated in 1990. This MOA coordinates the provisions of 36 CFR 800 with existing BLM procedures, emphasizing the Bureau's planning system. The MOA also incorporates mechanisms for information exchange between BLM and the SHPO, establishes reporting standards, and defines those undertakings and activities requiring or not requiring consultation.

## COORDINATION

Coordination, as defined in this section, refers to efforts to achieve compatibility with other Federal, state, and local land use plans. Public scoping represents initial efforts to coordinate with other entities; each agency listed at the end of this chapter received one or more copies of the scoping report. Most of the public scoping meetings were attended by representatives from local, state, or Federal entities.

With the City of Las Vegas Planning Department acting as coordinator, public agency scoping meetings were scheduled early in the planning process. Invitations were extended to Clark County and all incorporated cities within the county. The first meeting was held May 8, 1990 and was attended by representatives from the planning departments of BLM, Clark County, and the cities of Henderson, Las Vegas, and Boulder City. A follow-up meeting was held on May 30, 1990; all parties from the first meeting



were in attendance, as well as representatives from the Regional Transportation Commission and Regional Flood Control District. A third meeting was held on July 12, 1990, between BLM and Clark County.

Tonopah was the site of a meeting between BLM and representatives from Nye County Planning, held on June 5, 1990.

Written comments were received from various departments of the State of Nevada (including the State Clearinghouse), Inyo County, California, various Town Boards, Town Advisory Boards, and Citizen's Advisory Committees.

Other Federal agencies providing written comments included National Park Service (Western Region, Death Valley National Monument, and Lake Mead National Recreation Area), U.S. Fish and Wildlife Service (Reno Field Station and Desert National Wildlife Refuge Complex), U.S. Forest Service (Mt. Charleston Ranger District), Environmental Protection Agency (Region IX), U.S. Bureau of Mines (Western Field Operations Center), and U.S. Air Force (Nellis Air Force Base).

## **PUBLIC REVIEW OF THE DRAFT**

The Draft Stateline RMP/EIS has been distributed to the following agencies and organizations; some individuals who received copies are listed. The complete mailing list is available for review at the Stateline Resource Area Office at 4765 Vegas Drive, Las Vegas, Nevada.

### **Congressional Delegation**

U.S. Senator Richard Bryan  
U.S. Senator Harry Reid  
U.S. Congressman James Bilbray  
U.S. Congresswoman Barbara Vucanovich

Minerals Management Service  
National Park Service  
Department of Transportation  
Federal Highway Administration  
Federal Aviation Administration  
Environmental Protection Agency

### **Federal Agencies**

Department of Agriculture  
Forest Service  
Soil Conservation Service  
Department of Defense  
Army Corps of Engineers  
Nellis Air Force Base  
Department of Energy  
Nevada Field Office  
Nevada Operations Office  
Federal Energy Regulatory Commission  
Office of Environmental Compliance  
Western Area Power Administration  
Yucca Mountain Project Office  
Department of the Interior  
Bureau of Indian Affairs  
Bureau of Mines  
Bureau of Reclamation  
Field Solicitor  
Fish and Wildlife Service  
Geological Survey

### **Bureau of Land Management Offices**

Alaska State Office  
701 C Street, Box 13  
Anchorage AK 99513

Arizona State Office  
3707 North 7th Street  
Phoenix AZ 85011

Arizona Strip District  
390 North, 3050 East  
St. George UT 84770

Shiwits Resource Area  
390 North, 3050 East  
St. George UT 84770

California State Office  
2800 Cottage Way, E-2841  
Sacramento CA 95825-1889



California Desert District  
1695 Spruce St.  
Riverside CA 92507-2497

Barstow Resource Area  
150 Coolwater Lane  
Barstow CA 92311-3221

Needles Resource Area  
PO Box 888  
Needles CA 92363-0888

Ridgecrest Resource Area  
112 East Dolphin Ave.  
Ridgecrest CA 93555-9523

Colorado State Office  
2850 Youngfield Street  
Lakewood CO 80215

Eastern States Office  
350 South Pickett Street  
Alexandria VA 22304

Idaho State Office  
3380 Americana Terrace  
Boise ID 83706

Montana State Office  
222 North 32nd Street  
Billings MT 59107

Nevada State Office  
850 Harvard Way  
Reno NV 89520-0006

Battle Mountain District Office  
North 2nd and South Scott Streets  
Battle Mountain NV 89820

Tonopah Resource Area  
Building 102, Military Circle  
Tonopah NV 89049

Carson City District Office  
1525 Hot Springs Rd., Ste. 300  
Carson City NV 89706-0638

Elko District Office  
3900 East Idaho Street  
Elko NV 89801

Ely District Office  
Star Route 5, Box 1  
Ely NV 89301

Las Vegas District Office  
4765 West Vegas Drive  
Las Vegas NV 89108

Caliente Resource Area  
PO Box 237  
Caliente NV 89008

Stateline Resource Area  
4765 Vegas Drive  
Las Vegas NV 89108

Winnemucca District Office  
704 East 4th Street  
Winnemucca NV 89445

New Mexico State Office  
Joseph Montoya Federal Building  
South Federal Place  
Santa Fe MN 87504-1449

Oregon State Office  
825 NE Multnomah Street  
Portland OR 97208

Utah State Office  
324 South State Street  
Salt Lake City UT 84111-2303

Wyoming State Office  
2515 Warren Avenue  
Cheyenne WY 82003

#### State Agencies

Arizona

Game & Fish Department

California

Department of Fish & Game, Region 5

Nevada

Agency for Nuclear Projects

Colorado River Commission

Commission for the Preservation of  
Wild Horses and Burros

Conservation Commission

Land Use Planning Advisory Committee

Multiple Use Advisory Committee for  
Federal Lands

Nevada Army National Guard  
 Nevada Department of Agriculture  
 Nevada Department of Industrial Relations  
 Nevada Department of Minerals  
 Nevada Department of Transportation  
 Nevada Department of Wildlife  
 Nevada Division of Forestry  
 Nevada Division of Historic Preservation  
     and Archaeology  
 Nevada Division of State Lands  
 Nevada Division of State Parks  
 Nevada Military Department  
 Nevada State Clearinghouse  
 Office of the Governor  
 Spring Mountain Ranch State Park  
 State Senators and Assemblymen (Clark  
     and Nye Counties)  
 University of Nevada-Reno  
     Agriculture and Resource Economic  
         Division  
     American Institute of Mining &  
         Metallurgical Society  
     American Institute of Mining  
         Engineers-Nevada  
     Animal Sciences  
     Department of Mining Engineering  
     Department of Range, Wildlife, and  
         Forestry  
     Desert Research Institute  
     Fleischman College of Agriculture  
     Mackay School of Mines  
     Plant, Soil, Water Resources  
     Renewable Natural Resource Center  
 University of Nevada-Las Vegas  
     Barrick Museum of Natural History  
     Center for Business and Economic  
         Research  
     Department of Anthropology  
     Department of Biological Sciences  
     Department of Geoscience  
     Department of Physics

#### **Local Government**

Citizen's Advisory Councils  
     Bunkerville  
     East Las Vegas  
     Goodsprings  
     Indian Springs  
     Moapa Valley  
     Mt. Charleston  
     Sandy Valley

City of Boulder City  
     City Council  
     City Manager  
     Community Development and Planning  
     Department of Public Works  
     Mayor  
     Utilities  
 City of Henderson  
     City Council  
     City Engineer  
     City Manager  
     Department of Parks and Recreation  
     Department of Planning  
     Department of Public Works  
     Mayor  
     Water and Sewer  
 City of Las Vegas  
     City Council  
     City Manager  
     Community Planning and Development  
     Department of Public Works  
     Mayor  
     Parks and Leisure Activities  
 City of Mesquite  
     City Manager  
 City of North Las Vegas  
     City Council  
     City Engineer  
     City Manager  
     Community Planning and Zoning  
     Department of Parks and Recreation  
     Department of Public Works  
     Mayor  
     Office of Economic Development  
     Utilities  
 Clark County  
     Clerk  
     Commissioners  
     Community and Economic Development  
     Community College  
     County Manager  
     Department of Comprehensive Planning  
     Department of General Services  
     Department of Parks and Recreation  
     Health District  
     Planning Commission  
     Public Works  
     School District  
     Soil Conservation District  
 Clark County Museum  
 Clark County Regional Flood Control District



Clark County Regional Transportation  
Commission  
Clark County Wildlife Advisory Board  
Inyo County, California  
Planning Department  
Nye County  
Commissioners  
Planning Department  
Road Department  
School District  
Town Boards  
Beatty  
Amargosa Valley  
Town Advisory Boards  
Bunkerville  
Moapa Valley  
Laughlin  
Mt. Charleston  
Searchlight

#### **Native American Councils**

Intertribal Council of Nevada  
Las Vegas Indian Center

#### **Public Libraries**

Amargosa Public Library  
Star Route 15, Box 401-T  
Lathrop Wells NV 89020

Beatty Community Library  
323 Montgomery  
Beatty NV 89002

Blue Diamond Library  
PO Box 40  
Blue Diamond NV 89004

Boulder City Library  
539 California Ave.  
Boulder City NV 89005

Bunkerville Library  
PO Box 10  
Bunkerville NV 89007

Charleston Heights Library  
800 Brush Street  
Las Vegas NV 89107

Clark County Community College  
Learning Resource Center  
3200 E. Cheyenne Ave.  
North Las Vegas NV 89030

Clark County Library  
1401 E. Flamingo Rd.  
Las Vegas NV 89109

Documents Department  
The Libraries  
Colorado State University  
Fort Collins CO 80523-0002

DOI Nat. Resources Library  
Serials Branch-GE  
18th & C Streets NW  
Washington DC 20240

Goodsprings Library  
PO Box 667  
Goodsprings NV 89109

Henderson Library  
55 Water Street  
Henderson NV 89015

Indian Springs Library  
PO Box 628  
Indian Springs NV 89018

Las Vegas Public Library  
1726 E. Charleston Blvd.  
Las Vegas NV 89104

Moapa Valley Library  
PO Box 387  
Overton NV 89040

Mt. Charleston Public Library  
PO Box 269, SR 89038  
Mt. Charleston NV 89101

North Las Vegas Library  
2300 Civic Center  
North Las Vegas NV 89030

Nye County Library  
PO Box 153  
Tonopah NV 89049

Pahrump Public Library  
Pahrump NV 89041

State of Nevada Library  
Library Building  
Capitol Complex  
Carson City NV 89701

Sunrise Public Library  
100 N. Nellis Blvd.  
Las Vegas NV 89110

University of Nevada-Las Vegas  
James R. Dickinson Library  
Documents Department  
4505 S. Maryland Pkwy.  
Las Vegas NV 89154

University of Nevada-Reno  
Getchell Library  
Government Publications Dept.  
Reno NV 89507

Virgin Valley Library  
PO Box 113  
Mesquite NV 89024

Washoe County Library  
Documents Department  
PO Box 2151  
Reno NV 89505

### Organizations

All-Terrain Vehicle Safety Institute  
American Alpine Institute  
American Mustang & Burro Registry  
American Rivers  
Archaeo-Nevada Society  
Best In The Desert Motorcycle Club  
Blue Ribbon Coalition  
Boulder City Chamber of Commerce  
Boulder Gem Club  
Bureau of Land Management  
Lands Foundation  
Center for Urban Affairs  
& Policy Research  
Citizen Alert  
Clark County Gem Collectors  
Desert Bighorn Council  
Ecology Center of So. California  
Environmental Defense Fund

Fraternity of the Desert Bighorn  
Friends of Nevada Wilderness  
Friends of Red Rock Canyon  
Friends of the Mojave Road  
Friends of the River  
Frontier Girl Scout Council  
Groundshakers Motorcycle Club  
Henderson Chamber of Commerce  
High Desert Racing Assn.  
Humane Society of So. Nevada  
International Society for the  
Protection of Mustangs & Burros  
Las Vegas Board of Realtors  
Las Vegas Chamber of Commerce  
Las Vegas Distance Riders Club  
Las Vegas District Advisory Council  
Las Vegas Gem Club  
Las Vegas League of Women Voters  
Legislative Counsel Bureau  
Lost City Museum  
MRAN  
NAACP-Las Vegas Branch  
Natural Resource Defense Council  
National Speleological Society  
National Wildlife Federation  
Nevada Federation of Animal  
Protection Organizations  
Nevada League of Women Voters  
Nevada Natural Heritage Program  
North Las Vegas Chamber of Commerce  
Partners for PFT  
Red Rock Audubon Society  
Sierra Club  
Silver Dust Racing Assn.  
SNORE  
Sorooptimist International  
Southern Nevada Clean Communities, Inc.  
Southern Nevada Grotto  
Southern Nevada Home Builders Assn.  
Southern Nevada Landcruisers  
Teamsters Local 631  
The Nature Conservancy  
The Wilderness Society  
Tri County Livestock Council  
US Humane Society  
US Wild Horse & Burro Foundation  
WHOA

### Businesses

AeroTech  
Aggrandize Mining Company, Inc.



AMAX Gold Inc  
 American Borate Company  
 American Sand & Gravel  
 Andalex Resources  
 API  
 Associated Press  
 Avery Engineering Company  
 Baron Mining Corporation  
 Bell Telephone Company of Nevada  
 Black Canyon Mining Company  
 Blystone Equipment Co.  
 BO-K Explorations  
 Bob Bottom, Inc.  
 Bolling Construction  
 Bow and Arrow Cattle Co.  
 Brookline Mining Company  
 CALNEV Pipeline Co.  
 Charles H. Heisen & Associates  
 Consolidated Minerals Mgmt. Corp.  
 Converse Consultants  
 Dames & Moore  
 Delorda Mining Company  
 Desert Echo  
 Dimick Drilling  
 Dixie Mining  
 Eldorado Valley Mining Corp  
 Energy Research Company, Inc.  
 Frehner Construction Company, Inc.  
 Galli Exploration USA  
 G. C. Wallace, Inc.  
 Gold Fields Mining Corporation  
 Grace Petroleum Corporation  
 Henderson Home News  
 Holchem Inc.  
 Hollywood Gravel Co.  
 Holnam Inc.  
 Homestake Mining Company  
 H & W Minerals Company  
 Idaho Power  
 IMV  
 Industrial Photographics  
 Jacobs Engineering Group, Inc.  
 James Hardie Gypsum  
 Jetco Enterprises, Inc.  
 Johnstone Supply  
 J.R. Simplot Company  
 Kern River Gas Transmission Co.  
 Kerr-McGee Chemical Corporation  
 Key West Mining, Inc.  
 Knight & Leavitt Associates, Inc.  
 Krause/Thacke Mining & Minerals Co.  
 KVBC TV Channel 3

LAC Minerals (USA), Inc.  
 LADWP  
 Las Vegas Paving Corporation  
 Las Vegas Sun  
 Las Vegas Valley Water District  
 Lewis Homes  
 Magnum Mining Company  
 MEA, Inc.  
 Mesquite Farmstead Water Assn.  
 Micron Minerals Corporation  
 Minerals Exploration Coalition  
 Mitsubishi Cement  
 Moapa Valley Telephone Company  
 Monco Petroleum  
 NECI  
 Nevada Cobalt Industries, Inc.  
 Nevada Pacific Company, Inc.  
 Nevada Power Company  
 Noble-Tech Group, Ltd.  
 Oglebay Norton Company  
 Osage Industries  
 Oxbow Power Corporation  
 PABCO Gypsum  
 Pathfinder Gold Mines Corp.  
 Planning Information Corporation  
 Popular Mining Magazine  
 Precision Asphalt & Grading  
 Public Land News  
 R.A.M.M. Corporation  
 R.B. Peterson Construction Company  
 Red Corral Mines  
 Resource Concepts, Inc.  
 Ruby Drilling Company, Inc.  
 SAIC  
 Santa Fe Pacific Mining Company  
 Sierra Pacific Power Company  
 Silver State Disposal Company  
 Silver State Materials Corp.  
 Simplot Silica Products  
 Sky's The Limit, Inc.  
 Skyline Construction Company, Inc.  
 Snowbird Resources Limited  
 Southern California Edison  
 Southern Nevada Mining Partners  
 Southern Nevada Paving, Inc.  
 Southwest Gas Corporation  
 S & S Geologic Consulting Services  
 Standard Industrial Minerals, Inc.  
 Stateline Resources, Inc.  
 St. Joe Gold Corp.  
 Stocks Mill & Supply Company, Inc.  
 Sundance Realty & Development

TAMETIC  
 Tele-Reservations  
 US Borax & Chemical Corporation  
 US Engineering & Mining Company  
 United States Resources, Inc.  
 Valley Ready Mix  
 Van Sickle Enterprises  
 Viceroy Gold Corporation  
 Vosburg Equipment  
 VTN  
 Washington Contractors Group  
 Western Range Service  
 Western Rock Products  
 Whiting Brothers, Inc.  
 Wil-Tel Communications  
 Wittwer Ranch  
 WMK

### Individuals

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 Bill Shapley  
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 Bob Moss  
 Bob Collette  
 Bob & Rita Pribila  
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 Bruce Canfield  
 Byron & Ellie Green  
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 Charles Carson  
 Charles D. Snow  
 Charles Luzier  
 Charles P. Van Epps  
 Charlie Lam  
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 Chris Mitchell  
 Chuck Garrett

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 David Hinkson  
 David L. Platerio  
 David Meshard  
 David Pierce  
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 Dennis & Lola Egan  
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 D. R. Moody  
 Dr. Stanley E. Jones  
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 Edwin O. Larson  
 Emerson Leavitt  
 Ernest & Marge Sandquist  
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 Frank Maxwell  
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 Jeff Van Ee  
 Jerry Riggs  
 Jim Sallee  
 Jo and Don Noble  
 Joe Cleary  
 Joe & David Jones  
 John A. Davenport  
 John Clark  
 John & Della Yeager  
 John L. Grassmeier  
 John Peplowski  
 John P. Rich  
 John Sherman  
 John Steele  
 John W. Arlidge  
 Joseph H. Robertson  
 Joseph Puckett  
 Joyce Stalians  
 Julene P. Haworth  
 Katherine Goudreau  
 Keith Kindred  
 Keith & Marilyn Nay  
 Ken Jensen  
 Kent Tim Hafen  
 Kirk Harrison  
 LaRene Youngmans  
 Larry Isbell  
 Larry P. Brundy  
 Lee Halsey  
 Lee Kapaloski  
 Lee, Paul, & David Ziegler  
 Len Haeckel  
 Leo C. Artman  
 Leon Sprouse  
 Linda Sanders  
 Lionel Tyree  
 L. Levy  
 Lorin Bunker  
 Louis Koncher  
 Lt. Craig Klatt  
 Malcolm J. Reeves  
 Manning J. Post  
 M. R. Rambo  
 Marjorie Sill  
 Mark A. Sorensen, P.E.  
 Mark Royce

Mark Saylor  
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 M. Dean Webb  
 Melburn Jensen  
 Michael Kirk, D.V.M.  
 Michele Spruell  
 Mike Payne  
 Mike Verchick  
 Milton Linn  
 Mr. Melburn Jensen  
 Mr. Mildred K. Kaunas  
 Pat Foley  
 Paul E. Huish  
 Paul Selzer  
 Paul & Timothy Austin  
 Perry Bowman  
 Peter Gattuso  
 Randal Grandstaff  
 Ray Ausmus  
 Ray Lindblom  
 Raymond Sunday  
 R. E. Bob King  
 Rex Goodell  
 R. H. Cronshey  
 Richard Arnold  
 Richard C. MacDonald  
 Richard J. Mitchell  
 Richard Peters  
 Richard Thurmond  
 R. James Steward  
 Robert B. Leydecker, Jr.  
 Robert C. Broadbent Jr.  
 Robert & Joan Michel  
 Robert Kerr  
 Robert Murphy & Evangeline Brown  
 Robert Stoldal  
 Robert W. Maichle  
 Roland Holmes  
 Ronald M. Newell  
 Ron & Ann Schreiber  
 Ron L., Ron W., & Leslie Hardy  
 Ron Rudin Realty  
 Rose Strickland  
 Russell F. Miller  
 Ruth Sunday  
 Sal Fish  
 Sandy McFarlane  
 Sanford & Marilyn Shuler  
 Scott Margetts  
 Scott Obney  
 Shirley & Wayne Leavitt

Spencer Apple  
Stanley Pierce  
Steve Hailey  
Steven Reiter  
Team Loomis, Off-Highway  
Training  
The C. L. Hesters  
Thomas Davis  
Thomas L. Williams  
Tim Boyce  
Tom Mannillo  
Walter Barbuck  
William A. Kelley  
William J. Herbert, Jr.  
William R. Hodges  
William & Toni Dixson  
William Lescenski  
William Pautler





## **CHAPTER 6**

### **PLAN IMPLEMENTATION, MAINTENANCE, AND AMENDMENT**







## CHAPTER 6

### PLAN IMPLEMENTATION, MAINTENANCE, AND AMENDMENT

#### INTRODUCTION

The Stateline RMP has been designed to provide the framework for management of the public lands in the Stateline Resource Area for a period of 20 years. To accomplish this goal, the planning process must provide for changes in the terms, conditions, and decisions of the RMP, in response to unforeseen future demands or events.

#### PLAN IMPLEMENTATION

Following the approval of the resource management plan, the BLM will implement the management actions of that plan. The following standard operating procedures will be taken during the plan implementation to mitigate the impacts of those management actions.

##### Standard Operating Procedures

- 1) Management actions will conform to all laws, Executive Orders, regulations, Memoranda of Understanding, Cooperative Management Agreements, Department of Interior manuals, BLM manuals, and BLM Instruction Memoranda.
- 2) All management actions will require an environmental analysis prior to implementation. The environmental assessment process will evaluate the proposed action for conformance with applicable laws and regulations. During this assessment, if it is determined that significant impacts would occur that cannot be mitigated, the proposed action will be modified or abandoned.

#### PLAN MAINTENANCE

The Stateline RMP will be maintained as necessary to reflect minor changes in data. Situations requiring plan maintenance include changing acreage figures to reflect recent land disposals or acquisitions, to reflect new legislation, and to provide new language clarifying a decision, term, or condition. Maintenance of the Plan can not expand the scope of a resource use or a restriction, nor can it change the terms, conditions, and decisions of an approved RMP. Plan maintenance does not require formal public involvement, interagency coordination, or the preparation of an environmental assessment or environmental impact statement. Any maintenance must, however, be documented in the Plan and supporting records.

#### PLAN AMENDMENTS

The *Federal Land Policy and Management Act* (1976) requires that all actions occurring on public land conform to an approved land use plan. The Bureau regularly receives proposals, applications, and requests for uses which are not in conformance with an approved land use plan. Approval of any of these proposals would alter the scope of a resource use, use restriction, or change the terms, conditions, or decisions of the RMP. In this situation, the Bureau has two options : to deny the request or application, based on non-conformance with the approved land use plan; or to initiate the plan amendment process. The plan



amendment process may also be initiated at any time by the BLM State Director, in response to new data obtained from plan monitoring and evaluation; new or revised policy; changes in the scope of a resource use or a use restriction; and any changes in the terms, conditions, or decisions of the RMP.

The decision to initiate the plan amendment process does not guarantee that the proposed plan amendment will be approved. The proposed amendment will be analyzed in accordance with the planning regulations and receive an appropriate level of environmental analysis, public participation, and interagency coordination (including consistency determinations with other approved Federal, state, and local land use plans), prior to the Bureau's final decision.

Based on the significance of the anticipated environmental impacts from the specific proposal and the significance of the anticipated change to the RMP, plan amendments are categorized as described below:

Category 1 - The proposed amendment, based on preliminary analysis, would not involve a significant change in the goals, objectives, terms, conditions, or decisions of the RMP and would not result in a significant environmental impact. An EIS would not be required, and the proposed plan amendment would be analyzed in an environmental assessment.

Category 2 - The proposed amendment, based on preliminary analysis, would involve a significant change in the goals, objectives, terms, conditions, or decisions of the RMP, and would result in a significant environmental impact. An EIS would, therefore, be required.

## PLAN AMENDMENT PROCESS

The Stateline RMP plan amendment process will be conducted on an annual basis, except in those special circumstances where the State Director requires that the process begin immediately. In March of every year following approval of the RMP, a 30-day time period will be designated for the purpose of submitting proposed amendments to the Stateline Resource Area Manager. Public notification of the submission period will be published in the *Federal Register*, news releases will be distributed to all major media sources in Nevada, and a notice will be sent to all individuals, organizations, agencies, etc. that have requested to be on the Planning Mailing List.

All proposed amendments submitted during this time period will be evaluated to:

- determine if the proposed amendment is in accordance with applicable laws and regulations and will provide for the immediate and future management, use, development, and protection of the public lands within the Stateline Resource Area. The BLM Stateline Area Manager will base the rationale for such determination on the principles of multiple use, sustained yield, and maintenance of environmental quality, as required in the *Federal Land Policy and Management Act* of 1976.
- determine if alternative locations within the Stateline RA are available which would meet the applicant's needs without requiring a change in the RMP's classification or an amendment to any plan element.

The following criteria must be present before an amendment to the plan will be considered:

- (1) Is the proposed amendment based on new data not considered when the plan was developed?
- (2) Does the information represent a change in legal or regulatory mandate?

- (3) Is the supporting detail sufficient and the problem clearly stated so that the request can be considered?
- (4) Does the information represent a formal change in State or local government or agency plans?

If the proposed amendment can not be considered due to legal or regulatory constraints, if the proposed amendment was not properly submitted, or if the situation can be resolved without a plan amendment, the amendment process will end at this point.

If a determination is made by the Stateline Resource Area Manager and the Las Vegas District Manager to proceed with the amendment process, the proposed plan amendments will be presented to the Las Vegas District Advisory Council at their April meeting for discussion and recommendations. The Council will serve only in an advisory capacity and their recommendations will not be binding on the District Manager.

The District Manager's recommendations, along with those of the District Advisory Council, will then be forwarded to the State Director, who will then decide to either:

- reject the proposed plan amendment, in which case the requestor will be notified of the decision and the reason for the decision.
- further consider the proposed plan amendment, in which case the Director will determine the category of the amendment with regard to the level of environmental analysis. The Bureau will then proceed with the amendment process, as indicated below.

#### Category 1 Amendment

- Issue Notice of Intent (NOI) to prepare a plan amendment.
- Provide a 30-day public review and comment period.
- Identify issues related to the proposed plan amendment and review existing RMP planning criteria. Revise the planning criteria, if necessary, and provide for public comments on the revised criteria. Collect necessary data, review the existing Analysis of the Management Situation, as it applies to the proposed amendment, and revise as needed. Formulate alternatives and estimate effects of implementing any of these alternatives.
- Prepare Environmental Assessment (EA) and Finding of No Significant Impact (FONSI).
- Provide for 60-day Governor's Consistency Review.
- Issue Notice of Availability (NOA) for Proposed Plan Amendment/EA/FONSI.
- Provide a 30-day protest period.
- Resolve any protests.
- Prepare Approved Plan Amendment/Decision Record.

#### Category 2 Amendment

- Issue NOI to prepare a plan amendment/EIS.
- Provide a 30-day public scoping period.
- Identify issues related to the proposed plan amendment and review existing RMP planning criteria. Revise the criteria, if necessary, and provide for public comments on the revised criteria. Collect necessary data, review the existing Analysis of the Management Situation, as it applies to the proposed amendment, and revise as necessary. Formulate alternatives and estimate the effects of implementing any of these alternatives.
- Prepare Draft Plan Amendment/EIS.
- Provide for 90-day public comment and review period.
- Analyze comments, prepare Proposed Plan Amendment/Final EIS.



- Issue NOA for Proposed Plan Amendment/Final EIS.
- Provide 30-day protest period and 60-day Governor's Consistency Review.
- Resolve any protests.
- Prepare Approved Plan Amendment/Record of Decision.

## **PLAN AMENDMENT INFORMATION**

All requests for amendment must be submitted to the Stateline Resource Area Manager at the following address:

Bureau of Land Management  
Stateline Resource Area  
Attn: Area Manager  
P.O. Box 26569  
Las Vegas, NV 89126

### **Information Required from Individuals and Organizations**

Requests for a plan amendment from individuals, private groups, organizations, and businesses must contain the following information.

- The reason for the request, including an explanation of how the individual, group, organization, or business is being adversely affected by existing requirements or management objectives in the RMP, or a description of the new data or circumstances that have resulted in the need to amend the RMP.
- A description of the proposed plan amendment, including objectives, direction, and actions.

### **Information Required from Governmental Agencies**

#### Cities

If the request for an amendment to change the RMP is being submitted by an incorporated city, the following information must be provided.

- The request must have been approved by vote of the appropriate City Council.
- The city must show how it has been, is being, or will be adversely affected by the RMP or parts thereof, or it must describe the new data or circumstances that have resulted in the need to amend the RMP.
- The city must describe the proposed plan amendment, including objectives, direction, and actions, and show how the proposed amendment is necessary for consistency with the officially adopted city land use plan(s).

#### County

If the request for amendment is submitted by Clark or Nye County, the following information must be submitted.

- The request must have been approved by vote of the appropriate County Commissioners.

- The county must show how it has been, is being, or will be adversely affected by the RMP, or parts thereof, or it must describe the new data or circumstances that have resulted in the need to amend the RMP.
- The county must describe the proposed plan amendment, including objectives, direction, and actions, and show how the proposed amendment is necessary for consistency with the officially adopted county land use plan(s).

#### State

If request for amendment is submitted by the Legislative or Executive Branch of the State of Nevada, the following process must be followed.

- The request must have been approved by the Executive Director or Secretary of the submitting agency, after demonstrating coordination with other potentially affected State agencies.
- The State must show how it has been, is being, or will be adversely affected by the RMP, or parts thereof, or it must describe the new data or circumstances that have resulted in the need to amend the RMP.
- The State must describe the proposed plan amendment, including objectives, direction, and actions, and show how the proposed amendment is necessary for consistency with adopted State plans or programs.

#### Federal Agency

If the request for amendment is submitted by a department, office, or bureau of the Executive Branch of the U.S. Government (other than BLM), the following apply.

- The request must have been approved by the director of the submitting department, office, or bureau.
- The agency must show how it has been, is being, or will be adversely affected by the RMP, or parts thereof, or it must describe the new data or circumstances that have resulted in the need to amend the RMP.
- The agency must describe the proposed plan amendment, including objectives, direction, and actions, and must show how the proposed amendment is necessary for consistency with officially adopted plans or programs.

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